The Croonian Lectures
ON
THE DEGENERATION OF THE NEURONE.

Delivered before the Royal College of Physicians of London on June 19th, 21st, 26th, and 28th, 1900,

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LECTURE III.[1]

Delivered on June 26th, 1900.

THE CHEMISTRY OF DEGENERATION AND ITS RELATION TO AUTO-INTOXICATION.

MR. PRESIDENT AND GENTLEMEN,—Osmic acid has long been known to have the property of staining fat (including myelin) black, but owing to difficulty in penetration it could not be made use of for studying the degeneration of the central nervous system in the same way as the peripheral, although Exner[2] was enabled to show by this method the existence of fine medullated fibres (tangential system and supra-radial) in the grey matter of the cerebral cortex, and Tuczek applied this method and demonstrated the important fact that atrophy of the tangential fibres of the frontal and central convolutions was the earliest and most constant morbid change in dementia paralytica. I have had the opportunity of confirming this observation in at least 50 cases by the Marchi-Pal method. This degeneration does not appear to be peculiar to general paralysis, as similar atrophy may occur in other diseases of the cerebrum associated with dementia, as, for example, in alcoholic and epileptic dementia; it does not, however, exist in purely efferent systemic degeneration—e.g., amyotrophic lateral sclerosis—although in this disease, as I shall show, the whole motor efferent system of neurones from cortex to peripheral muscle is degenerated.

THE VALUE OF THE MARCHI METHOD.

About ten years ago Marchi introduced his method of staining degenerated nerve fibres, using it for the purpose of demonstrating the degenerations which followed experimental ablations of the cerebellum performed by Luciani, and the most striking results were obtained. By this method Marchi showed a descending cerebellar system in the antero-lateral column of the same side as the half of the cerebellum that had been removed. Russell, Ferrier, and Turner have, however, shown that this tract does not proceed direct from the cerebellum but through a relay in Deiter's nucleus. It is now the method adopted by all investigators for determining the path, not only of tracts of fibres, but of actual individual fibres, in the central nervous system. It has, in the hands of numerous investigators, served to demonstrate accurately the course and termination of nervous paths. There are a few fallacies in connexion with it for the inexperienced, but if care be taken to avoid these no method is so delicate or so reliable. By this method I was able to trace the course of the fibres of Gowers's tract, which I showed to consist of three sets of fibres; one, the more numerous, terminating in the middle lobe of the cerebellum after looping over the fifth nerve and running down on the surface of the superior cerebellar peduncle; another set terminating in the corpora quadrigemina; and the third, few in number, joining with the fillet fibres and ending in the optic thalamus. By this method single fibres can be followed in their course along the whole cerebro-spinal axis, from the cortex to the lumbar sacral region when they are efferent, and from the lumbar sacral region to the optic thalamus when they are afferent. I was unable to find any evidence for the existence of a cortical fillet described by Flechsig after cutting off the posterior column nuclei in monkeys and tracing the degeneration upwards, all the fillet fibres terminating in the optic thalamus.

THE CHEMISTRY OF THE MARCHI METHOD IN RELATION TO DEGENERATION.

In working with the Marchi method I was struck by the fact that in the neighbourhood of a lesion vessels could often be seen with phagocytes containing black-stained particles in their sheaths. These were undoubtedly carrying away the products of degeneration. I also found that muscles which had undergone fatty degeneration reacted to the Marchi stain—that is to say, pieces of muscle which had been hardened in Müller's fluid, like pieces of the degenerated central nervous system, when placed in the Marchi fluid for from 10 to 14 days (one part of 1 per cent. of osmic acid and two parts of Müller's fluid), revealed fatty degeneration by the fat particles being stained black. I had long before noticed that the fat particles in degenerated muscle were stained by the hæmotoxylon when the Weigert or Weigert-Pal method of colouration was used; therefore, I came to the conclusion that a non-phosphoretted fat, the result of degeneration of proteid, would be stained by either of these methods. Putting this fact by the side of another—viz., that degenerating nerves of the central nervous system stained by the Weigert or Weigert-Pal method appear uniformly blue throughout, whereas in a transection of the normal nerve-fibres only a ring of myelin stains blue, the central axon being unstained—the conclusion is that the proteid of the axon has degenerated and become converted into a fatty substance; but it is otherwise, as I shall now show, with the Marchi method, which really depends for the success of the reaction on the differential staining of the phosphoretted fat contained in the myelin (protagon) from ordinary (non-phosphoretted), such as olein, palmitin, stearin, &c. In sections of a normal nervous tissue stained by the Marchi method the nerve-fibres in transection present the following appearances: the central axial core is unstained, the ring of myelin is stained a greenish ash-grey colour, and degenerated fibres are stained black throughout, so that no differentiation can be seen between the myelin sheath and the axial core. It might be said that this was due to the

FIG. 1.

Photo-micrograph showing degenerated nerve fibre in a longitudinal section of the spinal cord ten days after experimental lesion. In places the thin axial core can be seen stained black. The greater part of it, however, is covered up by the degenerated myelin sheath, also stained black.

axial core having broken up and its place being occupied by the degenerated myelin, but I have observed in longitudinal sections of nervous tissue showing degeneration in the earliest stages the axis-cylinder stained black, as well as the myelin (Fig. 1). Neumann and

[1] Lectures I. and II. were published in THE LANCET of June 23rd and 30th, 1900, respectively.

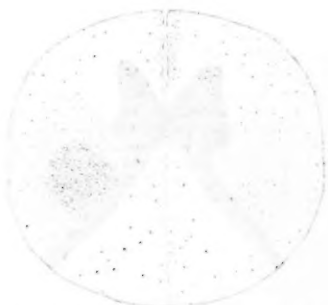
[2] Exner's method is as follows. Small pieces of brain, one cubic centimetre in size, are placed in 1 per cent. of osmic acid for from five to ten days, cut in alcohol with a wet knife, after sticking on cork with shellac. The sections, which must be very thin, are mounted in glycerine. If they are allowed to remain in alcohol they spoil. They are best transferred on a section lifter in a drop of strongly ammoniated water. The preparation should be examined at once. The essential in this process is the use of the ammonia, whereby the neuro-keratin supporting structure is swollen up into a homogeneous mass. The finest fibres of the cortical layers are demonstrated remarkably well by this method.

Eichorst contend that during degeneration of the peripheral end of a cut nerve the medullary sheath and axis cylinder undergo a chemical change of such a nature that structurally and chemically it is not possible to differentiate between the two. Moreover, there are chemical reasons for supporting this view. Examination of numbers of tissues, vegetable and animal, containing, or consisting of, simple non-phosphoretted fats, by the Marchi method showed that these fatty bodies gave the black reaction. I was lead to the conclusion that probably the myelin in the process of degeneration underwent a chemical decomposition by which the complex phosphoretted fat was split up into simpler bodies—viz., glycero-phosphoric acid, stearic acid, and choline; by the taking up of water lecithin would undergo the decomposition as shown[3]:—

$$\underset{\text{lecithin,}}{C_{44}H_{90}NPO_9} + \underset{\text{water,}}{3H_2O} = \underset{\text{stearic acid,}}{2C_{18}H_{36}O_2} + \underset{\text{glycero-phosphoric acid,}}{C_3H_9PO_6} + \underset{\text{cholin.}}{C_5H_{15}NO_2}$$

To prove this I took the spinal cord from a case of right hemiplegia of 21 days' duration, the result of thrombosis of the middle cerebral artery, and divided it longitudinally into as nearly as possible equal halves, reserving a small portion for microscopical examination by the Marchi method. The two halves of the cord were dried in a sulphuric acid exsiccator and it was found that the right half lost the most in weight by this process. Both halves were then dried at 100° C. and extracted in a Soxhlet's ether apparatus

FIG. 2.



Section of first cervical segment of the spinal cord from a case of hæmorrhage into the upper part of the pons on one side, causing left hemiplegia. It will be observed that there is scattered degeneration in the homolateral pyramidal tract and also in the direct tract, but there is a very marked degeneration in the left crossed pyramidal tract. The patient died at the end of 14 days. The result of the chemical examination of the two halves of the cord is given below. Left side: ether extract, 42·1 per cent.; calculated as lecithin, 18·9 per cent.; other extractives, 23·2 per cent.; residue, 57·9 per cent.; phosphorus in ether extract, 1·72 per cent.; phosphorus in residue, 0·92 per cent.; and phosphorus in half-cord, 1·19 per cent. Right side: ether extract, 38·9 per cent.; calculated as lecithin, 22·2 per cent.; other extractives, 16·7 per cent.; residue, 61·1 per cent.; phosphorus in ether extract, 2·14 per cent.; phosphorus in residue, 0·97 per cent.; and phosphorus in half-cord, 1·38 per cent. For details of the estimation see "Archives of Neurology," p. 346.

so that all the fatty matter was extracted. It was found that on the degenerated side the ether extract appeared like butter, whereas on the non-degenerated side it was more crystalline in appearance. The degenerated right side yielded a larger proportion *pro rata* of fatty matter than the left (Fig. 2), but the phosphorus (the details of the estimation of which are given fully in the paper with Dr. J. W. Barrett) which was obtained from the right half was less than the left. The conclusion, therefore, was that the phosphoretted fat (lecithin) had broken up in the way I have mentioned; this result I have stated in my article on the Pathology of Nutrition in the first volume of Clifford Allbutt's "System of Medicine." I have since examined another cord with the same results and two others in conjunction with Dr. J. W. Barrett. The results of these examinations are given in the first volume of the *Archives of Neurology*. Some of the increase of the fat cannot, however, be accounted for by the decomposition of the lecithin; it therefore probably comes from the degeneration of the proteid of the axis-cylinder process which we have seen to give the black fat staining reaction.

THE POSSIBILITY OF DEGENERATION CAUSING AUTO-INTOXICATION.

While examining a case of acute general paralysis with numerous epileptiform seizures I was struck by the fact that the peri-vascular lymphatic sheaths of many of the vessels were filled with cells staining black like the Marchi reaction and I came to the conclusion that very probably in this disease a decomposition of the myelin of the proteid matter of the nervous system occurred incidental to the degenerative process and that the cerebro-spinal fluid, and possibly also the blood, would yield some of the products of degeneration, and perhaps the presence of such might account for some of the symptoms which occur in this disease (*vide* Fig. 3). On account of the laboratory

FIG. 3.

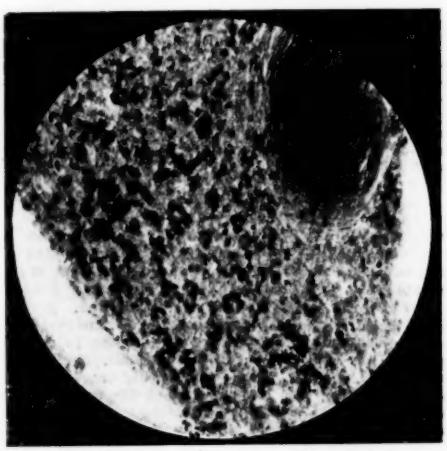


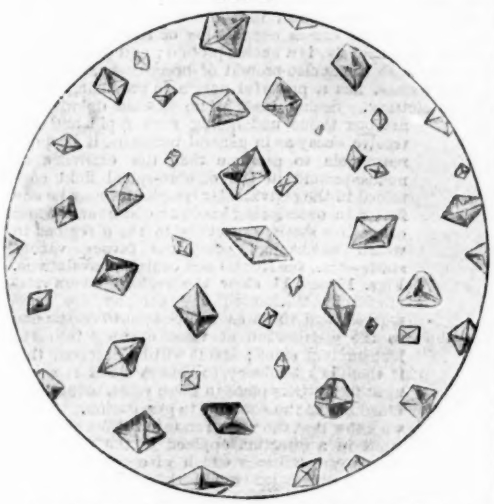
Photo-micrograph of a small vein from a case of acute general paralysis running towards the cortex with a lateral branch cut transversely, and dark in appearance on account of the contained congested blood. The section was stained by Marchi method and the whole of the external wall of the vein is seen covered with cells stained black by the fat contained in them taking up the osmic acid. Magnification 350 diameters. ("Archives of Neurology," p. 275.)

of the London County Asylums not being licensed for experiments I was fortunate enough to obtain the coöperation of my friend Professor W. D. Halliburton who was good enough to associate himself with me and conduct a series of experimental inquiries relating to this subject, a full account of which has been published in the Philosophical Transactions of the Royal Society. At first it was thought that choline only existed in the cerebro-spinal fluid and blood of patients who were suffering from general paralysis of the insane. This was no doubt due to the fact that in this disease choline was easily detected both chemically and physiologically, because in no other affection of the nervous system is there such a rapid and widespread degenerative process affecting the nervous system, but subsequent observations have shown that practically in any degenerative process affecting the nervous system if extensive enough choline can be detected in the blood, although normally it

[3] Liebreich and Diakonow considered that protagon was a mixture of lecithin and cerebrin, but numerous researches by Gamgee, Blankenhorn, Baumstark, Kossel, Freytag, and Ruppel have shown that protagon is a single chemical substance without, however, its precise constitution being determinable. Noll in an interesting paper refers to these researches and describes a method for the quantitative estimation of protagon. By this method he was enabled to show that protagon rapidly diminished in quantity in degenerating nerves and finally completely disappeared. He made comparative quantitative estimations of the two sciatic nerves after cutting the nerves on one side in dogs and horses. The protagon diminished in quantity until on the twenty-eighth day it had completely disappeared. In one case he examined the central ends of the sciatic nerves and found a considerable diminution on the side of section. He also performed an experiment relating to phosphorus, and his results, he states, are in agreement with ours with regard to the splitting up of lecithin.

does not exist in sufficient quantities to be recognisable. Thus it was found in two cases of combined sclerosis and in two cases of beri-beri where the disease had been of sufficient duration to give the Marchi reaction in the nerves; but in another case, in which the patient had died in the early stage from heart failure, there was no evidence of choline. This led to further researches and it was found that as soon as the myelin began to undergo decomposition in the peripheral portion of the experimentally cut sciatic nerves that the blood of the animals so operated upon gave the physiological and chemical reactions indicating the presence of choline. These facts show that my original surmise was true, that the protagon splits up into simpler bodies with elimination of choline. Many observers have found that extract of brain matter gave a physiological reaction similar to that of choline—namely, upon injection of a solution of an alcoholic extract of brain matter a fall in the blood-pressure was produced. This was noticed by Schäfer and Oliver, Swale Vincent, and Halliburton. The latter two have continued these researches, but arrive at somewhat different conclusions; it appears, however, to me that Halliburton is right in assuming that the effect produced is due to the existence of choline, for he finds that brain extract, like choline after injection of atropine, produces a rise instead of a fall of blood-pressure (*vide* Fig. 9). Again, the alcoholic extract of fresh brain-tissue yields the characteristic octahedral crystals which choline forms with platinum chloride (*vide* Figs. 4 and 5). In consideration of this fact we must conclude that choline is continually being formed as a normal product of lecithin metabolism and is continually escaping into the cerebro-spinal fluid which drains into the sub-arachnoid cavity and carries away the waste products of this metabolism. This view was put forward by Professor Gumprecht at the recent congress at Wiesbaden. Although it is probable that choline is continually escaping into the cerebro-spinal fluid, either it must disappear very rapidly by absorption of the fluid or it must be in very small quantities, for normal cerebro-spinal fluid did not give the physiological or chemical

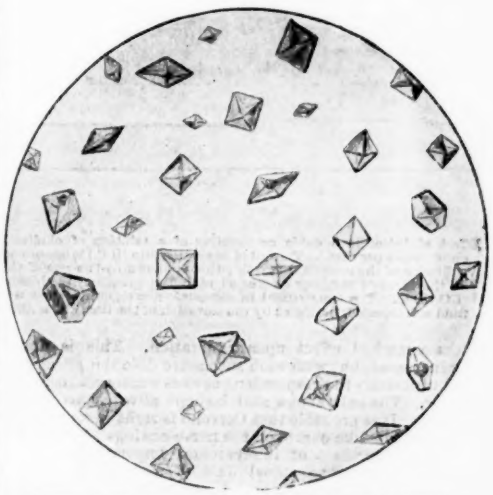
FIG. 4.



Crystals of the platinum double salt of choline crystallised from 15 per cent. alcohol.

reaction indicating the presence of choline. Gurlewitz, Schäfer, and others corroborate this statement. Hunt, in a recent paper, finds choline existing in the suprarenal gland. I have often thought it possible that one function of the suprarenal capsule, which Schäfer and Oliver in their valuable experiments proved to possess a powerful stimulating action upon the peripheral neuro-muscular mechanism of the arteries, is to produce a substance which will neutralise the influence of blood-pressure-lowering substances. Choline is not found in the urine, it is therefore probably oxidised into urea; it belongs to the same trimethylamine series of bodies as muscarine, neurine, and betaine, but it is not a powerful toxic substance, whereas neurine is. Many of the contradictory results which have been obtained as regards the toxic effects of choline are due to impure materials containing neurine having been used. Neurine, which is very much more poisonous than choline, has certain specific poisonous properties and acts especially upon the respiratory centre. In general paralysis and other diseases where a large amount of nervous tissue is undergoing degeneration choline may exist in sufficient quantities in the cerebro-spinal fluid taken from the cadaver soon after death, or even from the living subject by lumbar puncture, to give well-marked physiological and

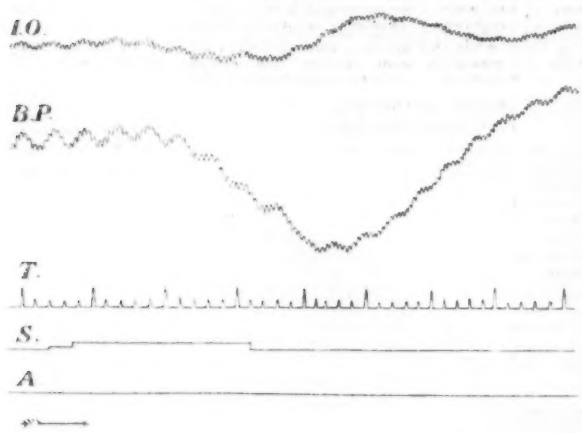
FIG. 5.



Crystals of the platinum double salt of the base separated from cerebro-spinal fluid in cases of general paralysis of the insane. Crystallised from 15 per cent. alcohol.

chemical reactions indicating its presence. Two specimens by lumbar puncture were kindly forwarded to us by Dr. J. Turner of the Essex County Asylum. It was also found in the blood taken for the purpose of treatment from patients suffering from prolonged seizures in general paralysis and from cases of beri-beri with right heart failure and asphyxia, and in the blood of other cases, such as combined sclerosis, experimental section of the sciatic nerves, &c. We may therefore assume the premiss that choline is a product of nerve degeneration, the result of breaking up of protagon or lecithin, that it escapes into the cerebro-spinal fluid, thence into the blood in larger quantities than it can be disposed of by oxidation, and that its accumulation in the blood might produce auto-intoxication. The principal physiological actions of choline were found to agree entirely with the effect produced by the intravenous injection of the cerebro-spinal fluid or the alcoholic extract of the blood (*vide* Figs. 6, 7, 8, and 9) dissolved in normal saline solution obtained from those cases. They are as follows. A fall of arterial blood-pressure, partly due to its action on the heart, but mainly due to the dilatation of the peripheral vessels, especially in the intestinal area (*vide* Figs. 6 and 7). This dilatation could actually be seen to take place through the glass lid of the intestinal oncometer when the solution was injected into the vein or if the intestine were irrigated by directly allowing the fluid to flow into the oncometer. The action on the splanchnic vessels is due to the direct action of the substance on the neuro-muscular apparatus of those vessels, for after the influence of the central nervous system has been removed by the section of the cord or of the splanchnic nerves choline still causes the typical fall of arterial pressure (*vide* Fig. 9). Neurine, a very toxic substance, we did not find in the blood or cerebro-spinal fluid, although it is possible that under certain conditions, such as the existence of micro-organisms, it might be produced. It produces upon intravenous injection first a fall, then a marked rise, and subsequently a fall of blood-pressure to the normal. Neurine

FIG. 6.

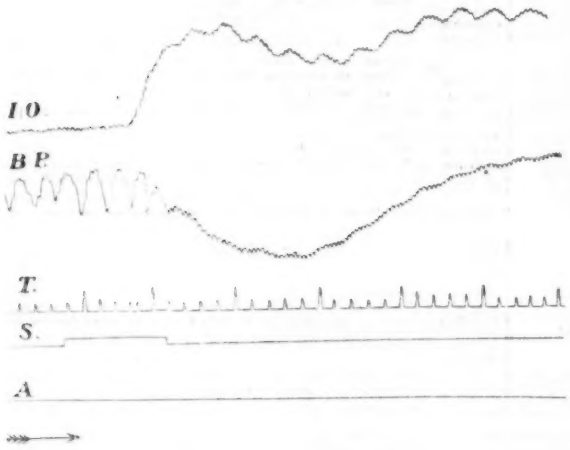


Effect of injecting 5 cubic centimetres of a solution of choline hydrochloride (0·2 per cent.). The fall of blood-pressure (B.P.) is accompanied by a dilation of the intestinal vessels; this is shown by the rise of the lever of the Marey's tambour connected with the intestinal plethysmograph (I.O.) Dog. T = time record in seconds. S = signal to show when the fluid was injected, indicated by the elevation of the line. A = abscissa.

produces a marked effect upon respiration. This is first greatly increased, but with each successive dose the effect is less and ultimately the respiration becomes weaker and ceases altogether. The animal can still be kept alive by artificial respiration. It is probable that Cervello is right in asserting that neurine acts like curare on the nerve-endings of striated muscle. Another fact of interest and importance is the existence in the cerebro-spinal fluid of a relatively large amount of proteid matter—three times as much as normal. Seeing that the cerebro-spinal fluid in the cranial cavity is greatly increased in general paralysis the quantity of proteid matter is very abundant. Examination of this proteid matter showed us that it contained a considerable amount of phosphorus; we were therefore led to believe that there was a nucleo-proteid present not found in normal cerebro-spinal fluid. As a rule we did not use the fluid itself for experimental purposes, but an alcoholic extract dissolved in saline solution, and the quantity injected (from five to ten cubic centimetres) would not contain enough nucleo-proteid to produce intravenous coagulation when diluted by the mass of blood, but in one specimen which contained a larger quantity than usual of proteid ten cubic centimetres of the cerebro-spinal fluid injected into a cat produced death by intravenous coagulation. It is therefore probable that a nucleo-proteid escaping into the cerebro-spinal fluid of the perivascular lymphatics may favour congestive stasis and even coagulation in the veins of the brain in general paralysis especially during the epileptiform seizures, when presumably the nervous tissue is undergoing disintegration. Congestive stasis in the vessels is the rule and not infrequently intravenous coagulation, and thrombosis of the large veins and even of the longitudinal sinus sometimes occurs. Thus the disintegrating nervous tissue, by providing a substance which favours stasis and coagulation, may be the means of setting up a vicious circle whereby, owing to the circulatory disturbances, acute destructive processes of the nervous tissue are brought about. This hypothesis is supported by the fact that most of the nerve-cells in the degenerating tissue of the cortex are devoid of the normal Nissl granules.

Now it has been shown by Held that these Nissl granules are the result of coagulated nucleo-albumin, for sections of nervous tissue hardened by alcohol and treated by artificial gastric juice still show the granules and these stain in a characteristic manner. Moreover, Macallum, by his modification of Lilienfeld and Monti's molybdate method, has micro-chemically demonstrated the existence of abundant phosphorus in these granules; we may therefore conclude that the disappearance of the same from the degenerating cells may be associated with the existence of a nucleo-proteid in the cerebro-spinal fluid. The researches of Halliburton have shown that the tissue fibrinogen of Wooldridge, which causes coagulation of the blood when injected intravenously, is a nucleo-proteid; and Halliburton has shown that the nucleo-proteid of brain-tissue, like that of other tissues, has a powerful action in producing intravascular clotting. Seeing that in no disease do we find nervous tissue undergoing such rapid and extensive decay as in general paralysis, it is quite reasonable to presume that the existence of nucleo-proteid in the cerebro-spinal fluid contained in the perivascular lymphatics may be one factor in occasioning vascular disturbances and congestive stasis, especially in those regions in which mechanical conditions favour venous stasis—viz., the frontal and central convolutions. Figs. 10 and 11 show the regions where pia-arachnoid thickening and atrophy are most marked, and the area will be seen to correspond to the distribution of veins opening into the longitudinal sinus; and it will be observed that if there is a tendency to venous stasis it would most likely take place in these veins, because the blood has to run contrary to gravitation. Again, we know that the veins run into the longitudinal sinus in a direction opposed to the current, so that any conditions which give rise to general venous congestion would make themselves felt especially in the area drained by these particular veins. Of course, it may be argued that the great anastomotic vein of Trollard has an important connexion with the lateral sinus and that this would prevent, in a measure, such mechanical disturbances. Still, look at it as we will, we must consider that the flow of blood in the veins I have indicated is at a mechanical disadvantage compared with that of the other veins which drain directly into the torcula or into the lateral sinus. That venous congestion does play an important part in the production of the congestive, epileptiform, and apoplectiform seizures of general paralysis is shown by the fact that a brisk purge or an enema will

FIG. 7.

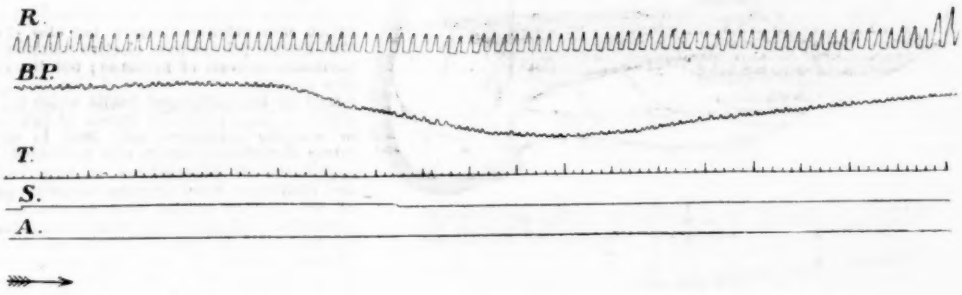


Tracing of intestinal oncometer (I.O.) and arterial blood-pressure (B.P.) in a cat. 10 cubic centimetres of cerebro-spinal fluid were injected; the same effect was obtained in the same animal by injecting 2 cubic centimetres of 0·2 per cent. solution of choline; the fall of blood-pressure is at first mainly cardiac in origin, for the oncometer tracing first follows the fall of arterial blood-pressure passively; it, however, soon rises, indicating dilatation of the peripheral vessels.

often prevent or cut short these seizures, presumably by relieving portal congestion and general venous turgescence. If, as we have seen, choline has the property of dilating the intestinal vessels in such a marked manner, it is possible to conceive that it may cause portal congestion and thus act as a factor in the production of venous stasis. The effect produced experimentally was only transitory because the quantity of choline introduced was rapidly diluted by the mass of blood, and probably oxidised also; yet when the whole mass of blood contains this substance in appreciable quantity continuously it means the possibility of constant toxic effect; therefore, although choline can hardly be regarded as a dangerous toxic substance, still, under certain circumstances it may serve as an additional factor in the production of complications in this disease.

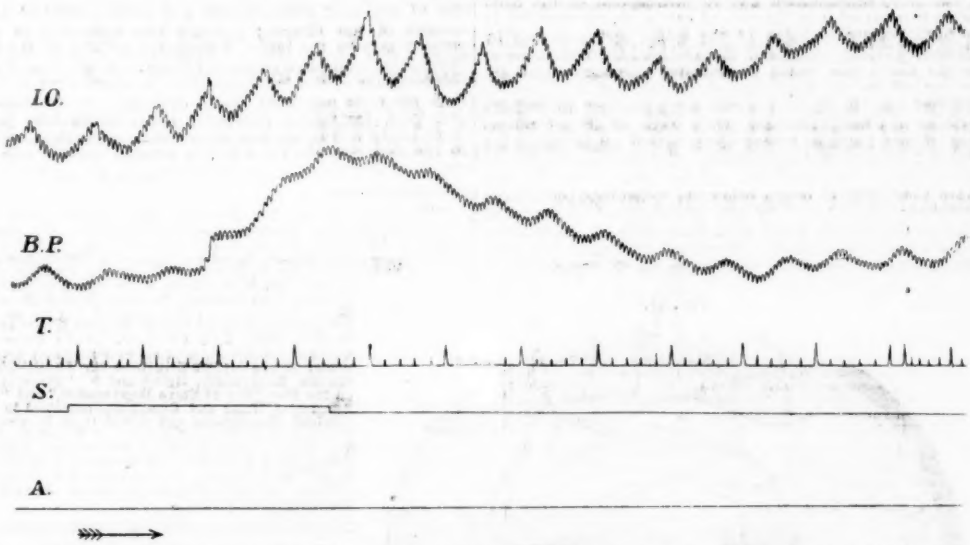
The Marchi reaction applied to the central and peripheral nervous systems shows rather different results; one striking difference is the comparatively rapid disappearance of the products of degeneration in peripheral nerves as compared with the central nervous system. For example, if the posterior spinal ganglia be removed and the animal kept alive for months no traces of the products of degeneration can be found in the peripheral nerves, whereas in the posterior columns of the spinal cord I have found well-marked evidence of the products of degeneration. Dr. H. Head, who has worked extensively on the changes in the cord and peripheral nerves the result of lesions of the posterior spinal ganglia, has observed the same conditions. From a large experience of this method of studying degeneration produced by all kinds of lesions of the cord and brain in animals, also from disease occurring in man, I have been struck by the long persistence of the products of degeneration in the central nervous system as compared with the peripheral. Is this connected with the anatomical difference which we know to exist between the nerve-fibres in the central nervous system and peripheral—viz., the existence in the latter of a chain of tubular cells of mesoblastic origin, forming the nucleated sheath of Schwann? And, we may ask, do these cells have a phagocytic action upon the products of degeneration, utilising the same for the formation of fresh protoplasm and myelin? and does the peripheral portion of the nerve-fibre depend solely for its nutrition upon the central cell of origin? There is some evidence in favour of the view that nerve regeneration may take place from the periphery, but there is no evidence to show that regeneration of fibres of

FIG. 8.



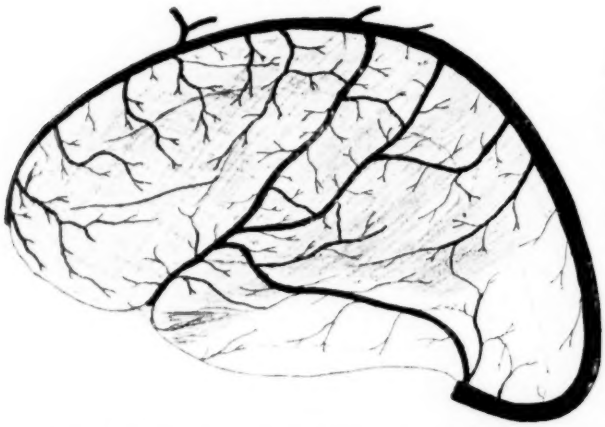
Effect in a dog of saline solution of the alcoholic extract of 70 cubic centimetres of blood removed during a seizure from a patient suffering from general paralysis of the insane. There is no effect on respiration (R.), but there is a well-marked fall of blood-pressure (B.P.). In the same blood choline was identified chemically.

FIG. 9.



Injection of 5 cubic centimetres of pathological cerebro-spinal fluid in an animal anæsthetised with A.C.E. mixture, but which subsequently received an injection of atropine. It will be observed that now instead of producing a fall choline causes a rise of blood-pressure. The same effect is produced by the injection of 5 cubic centimetres of a 0·2 per cent. solution of choline hydrochloride.

FIG. 10.



External and upper surface of hemisphere, showing distribution of veins opening into the longitudinal sinus. The shading shows the usual area of pia arachnoid thickening. A large branch is seen running back into the lateral sinus, connecting it with the great central anastomotic vein. The lateral sinus is diagrammatically represented as continuous with the longitudinal sinus and the torcular is not shown.

the central nervous system (where this sheath is absent) can take place.

TWO FORMS OF DEGENERATION.

There are two forms of degeneration, but both may react to the Marchi stain. They are as follows:—1. Secondary (Wallerian) degeneration due to interruption of the axon when it is cut off from its cell of origin, as, for example, in a focal transverse lesion of the spinal cord produced by disease or injury. Tracts of fibres which have their cells of origin above the lesion degenerate downwards and are recognised by the black-stained products of degeneration mapped out in definite areas corresponding to definite systems of efferent neurones, while tracts of fibres conducting afferent impulses having their cells of origin below the lesion have a normal appearance. The converse applies to tracts above the lesion—viz., all the afferent tracts which have their cells of origin below the lesion have their limits definitely mapped out by the black-stained products of degeneration, while those with their cells of origin above have a normal appearance. Therefore, secondary degenerations, whether occurring as the result of experiment or disease, may be considered of traumatic origin and arising from conditions outside the neurone very frequently due to vascular occlusion and local softening. 2. Primary degenerations are clinically and pathologically quite different from secondary. They arise as a result of altered conditions of the blood and lymph, due generally to the introduction or generation within the body of poisonous substances, and are insidious in origin, progressive in character, and generally fatal in termination. They are influenced by hereditary or acquired tendency to nervous degeneration, and election of the particular system or systems of neurones not only constitutes definite groups of clinical phenomena, which admit of empirical classification into definite diseases, but also shows that certain poisons have elective affinities for particular systems of neurones; but the election of certain structures may also be determined by occupation and habits which induce stress on some particular system of neurones, or vascular conditions may lead to circulatory disturbances which will determine the appearance of degenerative changes earlier and their more rapid progress in certain parts of the nervous system than in others. In connexion with the latter contributory factor we have already referred to the reason why certain portions of the brain should show more atrophy and degeneration in general paralysis than others. Again, I have found the left hemisphere, which presumably is used more than the right in all right-handed people, is more often atrophied in general paralysis, for the two hemispheres in this disease are seldom of equal weight, and the left hemisphere in two-thirds of these cases weighs less than the right. We know that the speech affection is one of the most characteristic and earliest clinical phenomena of this disease; possibly this difference in the weights may be the result of excessive activity of the left hemisphere while in a process of decay. At the same time, this tendency of the left hemisphere to waste more rapidly than the right might be partly explained on mechanical principles, for venous congestive stasis might take place more easily in the left hemisphere than in the right, owing to the fact that the blood in the internal jugular vein on the right side has a more direct course to the right auricle than the left.

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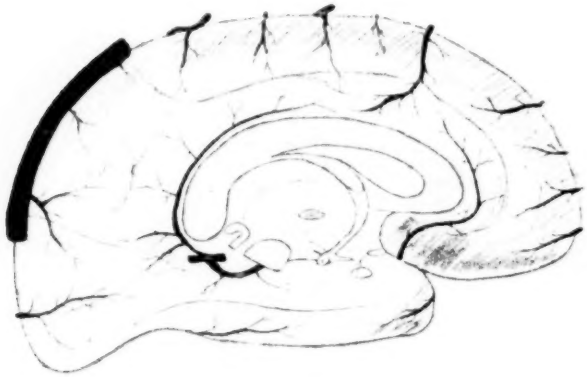
FIG. 11.



Mesial surface of hemisphere, showing the veins opening into the longitudinal sinus draining the upper portions where the thickening of the pia arachnoid occurs. Only a small portion of the longitudinal sinus is represented. These drawings are from Testut modified to show the area of pia arachnoid thickening and its correspondence in great measure with the area drained by veins opening into the longitudinal sinus.

THE DRAINS OF FURNISHED HOUSES.—At the Devon Assizes, held on June 26th, before Mr. Justice Kennedy, a lady brought an action against a landlord for damages for breach of an implied warranty to have a house in a sanitary and habitable condition. Counsel for the plaintiff stated that she had taken a furnished house at Exeter; the agreement did not contain any stipulation as to the drains, but when a furnished house was let there was an implied warranty that it was fit for habitation. Eventually some members of the household were attacked with enteric fever and the drains were discovered to be defective. The jury awarded the plaintiff £240 damages.

AN ABSTRACT OF

The Bowman Lecture

ON

THE PRESENT STATE OF OUR KNOWLEDGE REGARDING VISUAL SENSATION.

Delivered before the Ophthalmological Society of the United Kingdom on Friday, June 15th, 1900,

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MR. PRESIDENT AND GENTLEMEN,—The subject naturally demands several distinct series of observations—first, the nature of the stimulus that excites vision; secondly, the manner in which this stimulus affects sentient cells; thirdly, the path and mode of conduction of the nerve impulse; and fourthly, the ultimate appreciation of the conducted impulse.

I.—First, as to the nature of the stimulus. The expression "ether wave" must not be held necessarily to imply any actual movement in the ether, but rather an influence, a rapid, periodic change of some of its properties, the term "wave" simply meaning a disturbance of definite periodicity in space and time.

From every great centre of energy (the sun being, of course, the most important to us) radiations of energy take place, and pass through space in the form of these ether disturbances. So far as is known all such radiant energy travels at the same rate, and the "waves" occur transversely to the direction of propagation of the force. As to the nature of the vibrations or disturbances in the ether, the view now held is that first suggested by Faraday, and elaborated later by Clark-Maxwell—viz., that they are electro-magnetic. Bodies that are conductors of electricity absorb such radiations rapidly, and are therefore opaque; while those that are transparent to light are insulators. The length of the wave—that is, the interval between the disturbances—varies between many yards and four or five-millionths of an inch; that is, from the Hertzian waves on the one hand to the so-called chemical waves on the other. But all these waves, whatever their length, possess certain familiar physical properties in common; they can all be reflected, refracted, absorbed, and polarised.

The human retina is influenced by a comparatively short part of the entire scale, corresponding to what may be called an "octave"—that is, the shortest visible waves are approximately half the length of the longest—while on either side of these there are several "octaves" of invisible waves either too long or too short to be appreciated in this way. Variations in the length of the waves produce different effects on the retina of many, probably of most, animals, and these effects are instrumental in exciting in man a definite series of colour-sensations.

There is no real distinction between heat and light waves. To quote the words of the late Professor Preston: "It is not that there are two classes of waves, heat waves and light waves, but that we have two senses by which we can distinguish the same waves." The length of the wave corresponding to extreme red (32-millionths of an inch) is equivalent to about one-tenth the diameter of a red blood corpuscle, and that of violet, therefore, about one-twentieth.

II.—The phenomena produced by light in living cells of no visual function may be stated to be: (1) movement of chlorophyll corpuscles, probably associated with protoplasmic currents; (2) chemical activity produced in chlorophyll-containing cells of plants and animals; and (3) contraction of protoplasm. To these we may add (4) phototaxis, which is expressed in two ways—(*a*) the wandering of free cells towards the light and (*b*) the position assumed by the cell, parallel to the axis of the incident ray.

The earliest appearance of what can be called a visual organ is produced by a simple modification of surface epithelium; indeed, all light-sentient cells are modifications of surface epithelial cells, or developed from the same embryonic layer which forms these cells. In every class of the animal kingdom in which true eyes are to be found, examples are presented showing a high ocular development with a correspondingly high type of visual cell.

The general characteristics of such a visual cell are—(1) the end of the cell, corresponding to the cuticle, has a prolongation, usually in the form of a rod; (2) the opposite end of the cell is either directly continued as a conducting fibre, or is connected with a ganglion cell and ultimately with a nerve-fibre; and (3) pigment is present in the light-percipient cell itself, or in a distinct although closely related cell, often in both. It is to be noted that the main deposit of pigment is usually of a brown colour, and that it is situated at the end of the cuticular prolongation furthest removed from the incident light, both in invertebrates and vertebrates.

In the vertebrate retina we have, first, the pigment epithelial cell. This is of comparatively large size so that in man each cell has several end-organs embedded in it. The outer part of the cell is colourless and contains the nucleus. The remainder of the cell-body possesses much pigment, principally in the form of needles or crystals called *fuscin*. From the inner or cuticular surface of the cell arise numerous fine processes which pass inwards for a considerable distance between the end organs; they are colourless or contain pigment according to previous conditions as regards shade or exposure to light. Secondly, the neural or visual epithelial cells are, in most vertebrates, of two kinds, named, from the shape of their outer segments, rods and cones. Each cell is much elongated in a direction perpendicular to the free surface of the retina, and while its outer extremity is more or less deeply embedded in the pigment epithelium, its inner end rests on the internuclear layer. Each may be divided primarily into cell-body and cuticular formation. Under this latter term are probably to be included not only the outer segment, but also the highly refractive outer part (so-called ellipsoid) of the inner segment. The cell-body, traced from the cuticular end, begins as a distinct granular protoplasmic swelling, called the myoid; then (immediately in the case of the cone, after a varying interval in the case of the rod) comes a nucleus or granule. Next, there is a constricted part of the cell known as the fibre, and, finally, the fibre-bulb or enlargement. The relative size of rods and cones varies greatly in different vertebrates, but, where both elements exist, the chief distinctions between them consist in the greater development of the myoid in cones, and in the fact that the outer segment of the rods have, with few exceptions, a uniform reddish colour under ordinary circumstances during life.

We now come to the most important question included in this division of our inquiry—viz., what are the evidences of effect produced on such specialised light-sentient cells by the action of light? Observations on this matter have been mainly conducted on the eyes of vertebrates, and I shall confine my remarks to the effect produced on this most highly developed form of retina. First, in the pigment epithelium, when at rest, the fuscin is collected in a close mass in the body of the cell. When stimulated by light (*a*) the long pigment particles wander forwards, that is, towards the light, and invade the processes which extend between the outer segments, reaching nearly up to the external limiting membrane. This migration seems to be due to, or at any rate associated with, currents in the fluid cell-protoplasm. Marked wandering of the pigment takes place in red light, but the movement is most active towards the violet end of the spectrum and the activity seems, roughly, to be inversely proportional to the wave-length. Once the pigment is in the forward position, it returns to the body of the cell very slowly in the dark. (*b*) Also caused by exposure to light we have swelling of the pigment cell processes, which consequently grasp the outer segments. In this way the retina, over an illuminated area, is made to adhere to the pigment epithelium, forming what has been called an epithelial optogram. (*c*) Yet another effect from light is the alteration in the reaction of the contents of the pigment cell. This seems to be an oxidising process, accompanied by a substitution of an acid for a previously alkaline reaction, and there is reason to believe, from the action of staining fluids, that the change in reaction is communicated to the rods and cones, and that the activity of the chemical change varies in amount according to the wave-length.

In the visual epithelium there are several important changes brought about by exposure to light. 1. The purple of the rods undergoes change of colour wherever

the light falls on the retina, and this action is strictly confined to the illuminated area. The red end of the spectrum has but little effect, and the most active wave-lengths are those that correspond to the yellowish-green, which are the waves chiefly absorbed. Absolute bleaching ultimately takes place, the rapidity of the process depending on the intensity of the light. The purple is slowly restored in darkness if the rods remain in contact with the pigment epithelium, so that the formation of the purple stain is evidently dependent upon some action in the pigment cell, presumably of a secretory nature. 2. Movement of the cone. While a cone protrudes well into the pigment layer when protected from light, it retracts rapidly on exposure, the contraction taking place in the cone-myoid. The shorter wave-lengths act most energetically. It would seem to be an illustration of movement caused in excitable protoplasm by light. Similar but more feeble movements have been described in the rod-myoid due to the same action. 3. Photo-electrical response. It has been conclusively demonstrated that the action of light upon the retina is accompanied by a marked electrical change. The current so induced travels from pigment epithelium to nerve fibre layer, is positive in character, and is ascribed to increased disintegration. On exposing a fresh eyeball to light there is first a very short pause, followed by a rapid rise (or positive deflection); with continued illumination the positive effect increases slowly or remains stationary; and on shutting off the light there is a further short sharp rise, succeeded by a gradual fall to the position of rest. Waller has shown that there is evidence of two antagonistic processes in every such response, one positive, the other negative, the positive effect being dominant in the case of the fresh eyeball, the one possibly an evidence of disintegration, the other of reintegration. Very weak illumination—e.g., moonlight—suffices to produce the electrical variation. It has been repeatedly asserted that the electrical change depends upon the retina proper and is independent of the pigment epithelium. This, however, seems to me to require further investigation; it is difficult to believe in a marked change of this character being produced by light without the presence and participation of the pigment epithelial cells in which there is every reason to think that the light energy is mainly arrested and transformed. According to Dewar and McKendrick white light is the most effective, but on examining with spectrum colours their observations seemed to show that the yellow rays have the greatest power and that there is a gradually diminishing action on either side of the yellow. These observations on the activity of different parts of the spectrum are, however, open to the objection that the difference in response depended on the intensity rather than upon the wave-length. If the electrical change is due to the effect of light on the pigment cell we should presumably have the greatest action from that part of the spectrum that is brightest at very low intensities.

If we now compare the evidences of the effect of light on visual and on certain non-visual cells we find a striking similarity. In both there is a marked stimulation of the cell-protoplasm, combined with chemical activity, and in the case of the visual cell the amount of effect seems capable of measurement by the galvanometer. Since writing this paragraph, Dr. A. D. Waller has brought forward evidence to prove that the light effect upon a fresh leaf is also accompanied by an electrical change, thus completing in a remarkable manner the parallelism here described.

III.—The conduction of the impulse. The simplest example of the conduction of a light effect in an individual is in the case of a unicellular organism such as the *euglena*, where the whole cell responds to the influence communicated to it from without. In the neuro-muscular cells of the *hydra* the irritation is conveyed directly from the free surface to the deeply-lying processes which are in this way stimulated to contract. In the syphon of the *pholas dactylus* the superficial epithelium is pigmented and immediately beneath it there occurs a fine layer of contractile fibres which in turn overlie nerve-cells, and these again are connected with the longitudinal muscle which moves the syphon on exposure to light. Here we have an instance of a photo-chemical change in the pigment cell causing movement of the subjacent contractile tissue, serving as a mechanical irritant of the nerve-cell which occasions the general muscular movement of the syphon. This, of course, is not vision, but it is an effect, apparently purposeful, produced locally by light without any appeal to a central nerve mechanism. The effect required in lower forms of animal life—viz., escape from danger or search for food—may thus be brought about by the local effect of light. Where the body to be protected is large it is necessary to have the sense organ associated with a central nervous mechanism in order to secure protection with the minimum of specialised tissue.

We get a local combination of many light-sensory cells to form a visual apparatus and a union of many ganglion cells to form a central nervous mass. These sensory cells may be situated directly on a small collection of nerve cells, but more frequently in the case of higher forms these are connected by intermediary ganglion cells presumably formed, like the sensory cells, from epithelium, but at a later period. This explanation rests on strong biological evidence and is supported by the developmental changes which occur in the ectodermal cells forming the inner division of the secondary optic vesicle of vertebrates, where a single layer of columnar cells by multiplication is converted into three definite superimposed layers, the outermost constituting the true sensory epithelium, the innermost the large ganglion cells, and the intermediate layer the connecting bipolar ganglion cells, or inner granules. This leads us to inquire how nerve cells are connected with each other.

[The lecturer here described the modern views of the connexion between different nerve cells.]

In the present state of our knowledge as to the nature of a nerve wave it is perhaps not of great importance in attempting to follow its path to know exactly *how* the different nerve cells are brought into physiological relation with one another, so long as we are familiar with the general characteristics and position of the path traversed. The actual nature of the process associated with progress of the nerve current would appear to be most easily explained by supposing that the force, originated for example in the sensory cell, produces a physico-chemical effect on the nearest particle of the associated nerve tissue, this effect being of such a nature that it produces in turn a similar change in the state of the particle next in order, so that the influence is transmitted onwards. The influence produced locally seems to be accompanied by the formation of carbon-dioxide, and the progress of the impulse along the nerve can be traced by a change in the electrical condition known as the "current of action." The process leaves the nerve substance practically in its original condition, the nutrition of the fibre being maintained by its relation with the protoplasm of the associated ganglion cell, aided possibly in the case of long medullated axons, by the cells of the medullary sheath. In altered blood states or inflammatory conditions exhaustion readily occurs and restoration may be extremely slow or deferred indefinitely.

In the visual path, an effect having been produced on the sensory epithelial cell is immediately influential as far as the extreme termination of this cell or fibre-bulb. From this it is communicated to a bipolar ganglion cell (or inner granule) and then to one of the ganglion cells of the ganglion cell layer. Along the axis-cylinder of this cell the impulse passes as far as the external geniculate body, where this axis-cylinder ends, but the nerve wave is passed on to another neurone, the cell-body of which is in this situation, and travels along its axon to have an effect finally upon a nerve-cell of the cortex. Ramòn-y-Cajal believes that there is no direct relation, beyond that of mere contiguity, between the bulb and the outer process of the bipolar cell; that, in fact, the relation of the sensory epithelial cell to the inner granule is exactly similar to what he has described as existing between two ganglion cells elsewhere. Other observers have found distinct evidence of a direct anatomical continuity between these elements. Golgi again, and Dogiel have described a direct connexion between the ganglion and the bipolar cells.

Many rods (more than 20) and several cones may be physiologically connected respectively with single bipolar cells and several bipolar cells with one ganglion cell. This satisfactorily accounts for the relatively large number of rod and cone cells in the retina as compared with the number of fibres in the optic nerve. The cone cells of the fovea appear, however, to be exceptional, in that each has only one bipolar cell and one ganglion cell in relation with it.

What conjecture can we form with regard to the origin of the visual nerve impulse? Though the wave force which excites the retina is electrical the nerve impulse cannot be a mere continuation of it, since an electrical ether wave travels at a rate immeasurably greater than that of a nerve current. It is certain that the energy contained in the

light wave must undergo a profound change when it strikes and is arrested by the pigment, and the change that first suggests itself is that heat should be produced. But as a result of this transformed energy in the pigment chemical changes are induced, which should be compared with those brought about in plants by the action of light on chlorophyll. These chemical changes are also probably factors in the promotion of protoplasmic movement. In the case of chlorophyll the wave-lengths that are mainly arrested are the most chemically efficient, and this probably holds good also in the case of the retinal pigment.

The pigment cell when at rest has a marked secretory function, evidenced by the formation of retinal purple in the outer segments of the rods. The material thus formed is undoubtedly of great visual value, though there is no conclusive proof that the purple stain itself has actually any direct influence on sensation. Although complete rest—that is, darkness—causes an accumulation of this secretion the function proceeds during exposure to light.

The next fact of importance in this consideration is the contraction of the cone-myoid, which may be either due to a direct action of light on protoplasm, comparable to what has been observed in *peiomyxa palustris*, or to a change produced indirectly, the cone-myoid contracting in consequence of some stimulus, possibly chemical, received from the pigment cell.

Prolonged exposure to an intense illumination—direct sunlight, for example—causes actual changes of so pronounced a character that the outer segments of the visual cells are altered anatomically as well as functionally, and this alteration may persist for many months or even remain permanent.

The fundamental idea of vision seems to be to connect visual impression with muscular action, so that the animal may move out of danger, protect itself, or find its food. There is no necessary consciousness associated with any such visual influence, even in the case of animal forms where different wave lengths produce a difference in the muscular movements induced. In the case of the *daphnia*, for example, the experiments of Lubbock demonstrated that this tiny crustacean, with its feebly developed nervous system, is capable of distinguishing between light of different wave lengths, and that it is influenced particularly by the rays that correspond to what we know as yellow-green. It is unnecessary, and surely unreasonable, however, to conclude that the daphnia has any real conscious vision as we understand it in ourselves—still less a true colour sense. As an instance of how eyes may be developed, and prove serviceable for the production of a muscular action beneficial to the individual, no better could be brought forward than that observed by Semper in the *onchidium*. This land-snail lives close to the sea-shore, and the same shore area on certain coasts is frequented by the periophthalmus, a fish which leaves the water in search of food. Wherever this particular foe exists, and nowhere else, the local onchidium exhibits numerous highly developed eyes on its back, each having retinal cells, pigment, and optic nerve. In these dorsal-eyed onchidia, and in these alone, the skin of the back is thickly set with minute glands containing concretionary pellets, which are discharged by a general contraction of the body in hundreds. Such a contraction is induced, according to Semper, when the dorsal eyes give notice of the approach of this enemy.

Protective changes in colour under the influence of their surroundings occur in many animals, particularly in many fish and amphibians. The pigment is contained in contractile cells in the skin, and Lister has shown that the activity of these cells affecting the distribution of pigment is dependent on vision. Pouchet subsequently proved that the reflex takes place through the sympathetic nerves, the intensity of the nerve-current excited and the completeness of the contraction of the pigment-bearing cells being proportional to the brightness of the light reflected from surrounding objects. It is not a question of the animal consciously assuming a protective shade, but an instance of a visual impulse provoking a muscular contraction.

As we ascend in the animal scale we get further centralisation of the nerve mass, and find the visual apparatus intimately connected with it. Even in the case of the vertebrate brain it has been asserted that in all probability each part was primarily independent, and the division connected with the optic nerve was one of conspicuous importance. In the lower vertebrates—fishes, amphibians, reptiles, and birds—we still find the central connexion of the optic nerves almost confined to one part, the large optic lobes corresponding to the corpora quadrigemina of mammals. But as we ascend the scale this part of the brain becomes progressively smaller and less developed and seems to be mainly instrumental in the transmission of visual impulses that are to be immediately—that is, without reference to the visual cortex—conveyed as reflexes by way of motor nuclei to muscles, such as those for movements of the iris, and possibly to some extent of the eyeball—movements that can occur independently of sensory vision. There is absolutely no evidence that there is any difference in the character of the original impulse, or in the optic nerve-fibres that convey it, to distinguish what will be a mere muscular reflex and what will be a conscious impression. As to the manner in which such fibres are connected with visual cells, so that there may be, as it were, double central representation (sensory and reflex) of every part of the retinal area, we are still ignorant. It is possible that this is brought about by lateral communications between the processes of retinal ganglion cells of one or other layer, but more probably it is effected by a collateral from the axon of the last retinal neurone.

The visual fibres, strictly so-called, take, at least mainly, another course in the higher vertebrates. In man, for example, they pass from the optic tract to the external geniculate body and pulvinar, and thence the impulse is conveyed by fibres which traverse the posterior end of the internal capsule and pass, as the optic radiations of Gratiolet, to the cortex of the calcarine fissure and its immediate neighbourhood. The crossing of the optic nerve fibres at the chiasma so as to produce unilateral representation of the corresponding half of each retinal field; the bilateral representation of each macula; the association fibres which bring the cortical region of visual projection into relation with the much more extensive area of visual representation: the question of a distinct unilateral representation of each ocular visual field; and the arguments for and against a separate cortical area instrumental in colour perception must be left with a bare mention.

As regards the receiving apparatus, the visual fibres end by communicating directly, or indirectly through a nervous felt-work, with cells of the visual area, and destruction of this part of the cortex causes immediate blindness of a corresponding part of the field of vision. It would appear that the upper and lower lips of the calcarine fissure of one occipital lobe correspond respectively to the upper and lower parts of the homonymous halves of both retinæ, and that the fovea is represented along the entire length of the fundus of the fissure.

But whether the cells of the calcarine cortex are the seat of conscious impressions or merely constitute a stage in the path to yet higher centres, and whether the same cerebral cell is capable of appreciation of differences in colour as well as of difference in amount of light effect, must remain debateable questions. So much only may be observed, that this part of the cortex is particularly rich in cells, mostly of small size, while there is no reason to regard a small nerve cell as inferior to a large one in functional activity.

IV.—With regard to the broad facts of our recognition of the conducted impulse we have evidently two distinct sensations dependent upon light—colour and brightness; both influenced by differences in wave rapidities or wave-lengths.

On gradually reducing the intensity of the spectrum the colours fade and cease to be recognisable, but not simultaneously. Of these two sensations, light and colour, that for light is the one that persists with the smallest recognisable stimulus and is presumably the more elementary. The most elementary visual sensation is that derived from waves near E, that is for green. Clinically we have additional proof of this difference, for example, in cases of optic nerve disease with failure of conduction, colour sensation disappearing before that of light. Moreover, in the case of total congenital colour-blindness the brightest part of the spectrum is also in the green, about the line E, just as we find it to be on sufficiently diminishing the intensity of the solar spectrum to the normal eye. In fact, the appreciation and conduction of the stimuli associated with colour sensation seem to be more delicate than for light; a greater stimulus is needed to excite it, and it is more readily affected by any failure in the conducting path. The longest visible waves are recognisable as a colour (red) at the same time as they become visible as light, while in the case of shorter waves near E (green) there is a marked interval

between the intensity necessary for the perception of light and that for colour. Green, indeed, affords us the best clinical test of early failure of conduction, the appreciation of the colour failing, while that for light persists.

Of these two sensations there is reason to regard light perception as the more *primitive*, and the primitive type of visual cell is pigmented epithelium. We are encouraged, then, to consider this part of our retina as mainly concerned in the appreciation of light as distinguished from colour, and many facts support this view. Thus, in disease of the pigment epithelium there is difficulty in appreciating differences in the amount of light. Again, when changes have occurred in the pigment cells, when the eye is kept in the dark for about an hour, there is a remarkable increase in the sensitiveness of the retina to light. We may infer that the chemical action, induced by light on a particular secretion of the pigmented epithelium, is intimately associated with the causation of the effect recognised as *light-sense*; and the next step is to inquire how the impression is conveyed from the pigment cell, whether by rod- and cone-cells indifferently, or mainly by one of them. Although the power of appreciating a faint light stimulus is so markedly increased as a whole by "dark-adaptation," we find that this does not apply to the entire visual field, and does not apply equally to all parts of the field where it is increased. Thus in the central area the light-sense is actually diminished under these conditions; and whereas it is increased outside the central area, it is relatively more augmented as we approach the periphery. That is to say, it is not increased at all where cones alone are present, and the increase becomes more marked as the rods become more and more the predominant element. It has therefore been argued, with reason, that the rods are the elements concerned in the appreciation of light, or, rather, of the change produced in the pigment cells by light, while the eye is thus adapted; although whether or not the retinal purple is visually concerned may be considered still an open question. So definite is the physiological area of diminished light-sense in this condition that it can be shown to correspond with the projection of the rod-free foveal retina.

The only possible argument that can be adduced against this conclusion is the possibility that there may be a difference in the behaviour of the pigment cells themselves, in the central and peripheral regions of the fundus, but no evidence in favour of this has ever been brought forward. Granted, then, that the rods have this particular function, it by no means follows that the cones are not serviceable in the appreciation of light in ordinary illumination, though their peculiar office is presumably concerned with the recognition of differences of stimulation associated with variations in wave-length recognised as colours. Indeed, we know that light is ordinarily appreciated with marked efficiency by the macular area, but it is possibly always in virtue of the same function that is concerned in colour vision, white light being recognised, not as a simple result of stimulation, but as a consequence of, say, three simultaneous stimuli any one of which alone would excite a central impression of colour. It would seem as if a minor amount of stimulation that can be appreciated only by the rods must be excited before the cones come into functional activity. It is possible that the first action of light on the pigment cell is instrumental in providing a product of secretion or decomposition that is required so that the finer differences in wave-lengths be appreciated by the cones and the colour-sense stimuli be thereby initiated. Very possibly the movement of the cone-myoid is of service in this association.

PURE BUTTER.—Recently a firm of grocers at Rhyl sued a Liverpool firm of butter merchants for costs sustained in defending an action in which they were charged with selling butter adulterated with boric acid. Judge Lloyd decided in favour of the plaintiffs on the ground that butter containing boric acid was not absolutely pure. The case was then taken to the High Court and remitted back to Judge Lloyd for consideration as to whether it was pure butter according to the trade. At the Rhyl County Court on June 22nd it was stated that the plaintiffs had consented to a judgment for defendants and agreed to pay £15 costs. His Honour consented to the settlement, but remarked that although butter which contained boric acid as a preservative might be regarded as pure in the trade, it could not be absolutely pure according to the customers' idea.

UNUSUAL COMPLICATION FOLLOWING GASTRO-JEJUNOSTOMY.[1]

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SURGEON TO THE LEEDS GENERAL INFIRMARY.

I RELATE the following case to offer another instance of a good result following operative interference when there seemed to be but a forlorn hope of giving relief.

The patient, a woman, aged 62 years, had suffered for many months from pain after food, the pain gradually becoming most acute so that opium in full doses was needed to obtain anything like comfort. Latterly regular attacks of vomiting occurred about every 48 hours, when most of the nourishment taken during the preceding two days returned. No tumour could be felt but the symptoms all pointed towards pyloric stenosis. As the condition of the patient was getting unendurable I decided, after consultation with Dr. T. Churton, to open the abdomen to see if anything could be done. At the operation I found the pylorus greatly thickened and masses of enlarged glands constituting too great an area of disease to be attacked with any degree of safety. I therefore joined up a loop of jejunum to the stomach, using Senn's plates as the scaffold of anastomosis.

For the next two weeks all went as well as such cases usually do; the vomiting ceased and the pain gradually subsided. At the end of that time, however, the symptoms of obstruction began to reassert themselves, the pain again grew severe, and again the regular vomiting began, the amount corresponding with the quantity of fluids taken. It seemed clear that the new opening had for some reason or other ceased to be effectual. I therefore was face to face with a most discouraging chain of events and the patient herself was as badly off as she was before she submitted herself to operative interference. I decided to act on the assumption that the new opening between the stomach and the jejunum had closed and determined to re-open for the purpose of ascertaining the reason. Accordingly I re-opened the abdomen and I found that the junction between the bowel and the stomach externally was quite satisfactory. I then made an incision into the stomach two inches above the junction, and putting my finger inside found that all trace of the bone-plate had disappeared and also that all trace of the opening was absent. After a minute or two I felt the edge of the oval cut of the former operation and pressing firmly in the centre of this tore through a membrane by which the opening had been occluded. My finger then passed easily into the bowel and I stretched the opening freely in all directions. I then closed the exploratory incision into the stomach and finished the operation in the usual manner. After a day or two, during which time vomiting was incessant, improvement set in. The pain again left and it has not since returned. The patient is able to take light food and the vomiting has ceased. She is now out of bed daily and is gaining strength.

I have had occasion to operate for the relief of pyloric stenosis a good many times and in each instance I have used Senn's plates, but never before has the disaster I have related taken place. The membrane through which I tore was about as thick as ordinary note-paper. I do not know what occasioned the formation.

I said at the commencement of the notes of this case that I related it to add to the number of recorded surgical successes under desperate circumstances. With the condition which I have related to hold one's hand was to let the patient die in great distress; to operate again gave her one chance, but it also exposed her to the risk of death upon the operating table. Problems such as these come before us only too frequently and end only too often disastrously. I think it right, therefore, to put upon record this case, as it may possibly afford a guide as to the line of action to be decided upon should failure to relieve attend upon operation for a like condition.

June 24th.—The patient is now well, taking ordinary food and doing her ordinary work.

Leeds.

[1] A paper read before the Leeds and West Riding Medico-Chirurgical Society on May 4th, 1900.

A CASE OF PRIMARY CARCINOMA OF THE VERMIFORM APPENDIX.

WITH REMARKS.

BY H. D. ROLLESTON, M.D. CANTAB., F.R.C.P. LOND.,
PHYSICIAN AND LECTURER ON PATHOLOGY AT ST. GEORGE'S HOSPITAL; SENIOR PHYSICIAN TO OUT-PATIENTS, VICTORIA HOSPITAL FOR CHILDREN.

A WOMAN, aged 26 years, was admitted into St. George's Hospital, on March 26th, 1900, under the care of Dr. F. G. Penrose, with a fourth attack of appendicitis, the first attack having occurred in January, 1899. On March 27th, 1900, the day after admission, the appendix was removed by Mr. A. Marmaduke Sheild. There was a small peritoneal adhesion connecting the apex of the appendix with the posterior surface of the uterus. No enlarged glands or anything in any way suggesting secondary growths were seen at the time of the operation. When the appendix was cut open a globular mass, a little larger than a marble, was found near the apex arising in the mucous membrane. It was somewhat caseous in appearance and suggested the possibility of tuberculous disease. The patient recovered from the operation, but during the middle of April she had an erratic temperature with some pain on the left side of the abdomen. This, however, subsided and she went to the convalescent home in May. I have recently (June 27th) heard from Mr. Sheild that the patient is losing flesh and strength, and that it is possible secondary growths are developing in the abdomen. The appendix was sent to me, for microscopical examination and report, by Mr. Sheild, to whom I am greatly indebted for permission to publish this interesting case.

Microscopical examination of the vermiform appendix showed, most unexpectedly, that it was the site of primary spheroidal-celled carcinoma. In its earliest stage the growth was seen to be limited to the mucous membrane (*vide* Fig. 1), but its histological structure in this situation was exactly the same as in other sections of adjacent parts of the appendix, where it was seen to be widely infiltrating the muscular coats and extending nearly up to the peritoneal covering (*vide* Fig. 2).

FIG. 1.

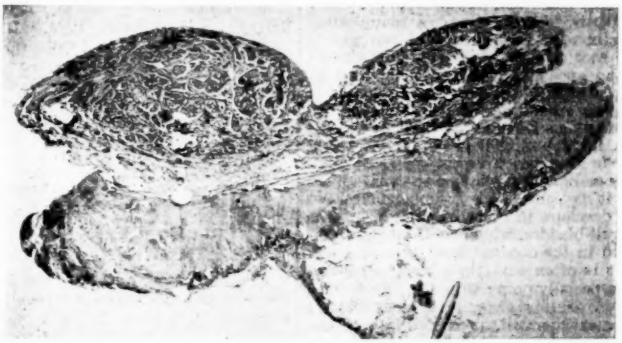

Photo-micrograph No. 1. Section of vermiform appendix showing carcinoma beginning in mucous coat. × 6.

FIG. 2.

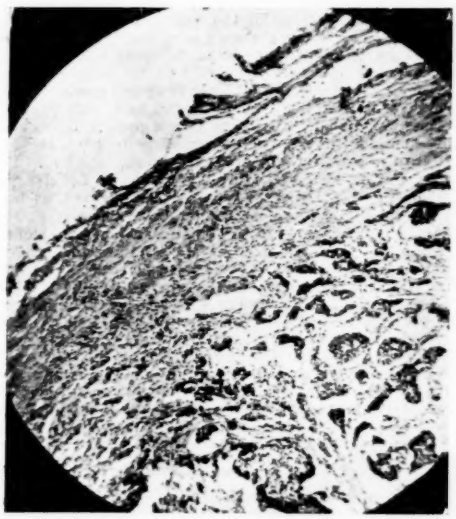

Photo-micrograph No. 2. Section of vermiform appendix showing carcinoma invading muscular coats. × 126.

The facts that (1) the growth was most extensive in the mucous coat, (2) that it could be traced outwards into the muscular coats, and (3) that there was no growth on the outside of the peritoneum, showed that the growth originated in the mucous membrane of the appendix, and that it was not a secondary growth either implanted on the peritoneum or arising as a result of embolism within its substance. I have several times seen secondary growths, in generalised malignant disease of the peritoneum, invading the appendix from without. If such an appendix were removed during life it might, if only superficially inspected, give rise to an erroneous diagnosis of primary malignant disease of the vermiform appendix. In the case of secondary malignant disease of the bowel due to emboli of infective tumour-cells the growth arises, and is most prominent, in the sub-mucous or muscular coats and only secondarily involves the mucous membrane. For the excellent photo-micrographs I am greatly indebted to the kindness of Mr. E. J. Spitta of Clapham, and Mr. Harold R. D. Spitta, a senior student of St. George's Hospital.

THE RARITY OF THE DISEASE.

Primary malignant disease of the vermiform appendix is not mentioned in Hawkins's work on "Diseases of the Vermiform Appendix" (1895) or in Allbutt's "System of Medicine." Kelynack in his monograph on "The Pathology of the Vermiform Appendix" (1893) could not bring forward any undoubted case, but he refers to three cases in a tabular statement drawn up by Leichtenstern, and to a case of colloid carcinoma described by Draper, which he (Kelynack) thinks probably arose in the ileo-cæcal valve.

Lafforgue[1] collected no less than nine cases of primary carcinoma of the appendix. Mosso and Daunic[2] found the

[1] Thèse de Lyon, 1893.
[2] Bulletin de la Société Anatomique de Paris, Novembre, 1897.

appendix of a woman, aged 50 years—who had not presented any special symptoms pointing to disease of the vermiform appendix, death being due to morbus cordis—to be affected with carcinoma. The appendix was four centimetres in length and 45 millimetres in its greatest circumference. On section the muscular coats could be distinguished surrounding a tumour growing in the inner coats. In this way it resembled the section of the early stage of carcinoma seen in my case (Fig. 1). The growth was regarded as a columnar-celled carcinoma with a transition to the spheroidal-celled type. Letulle and Weinberg[3] in a careful investigation into the histology of 12 cases of obliterative appendicitis discovered quite unexpectedly that two of their cases showed microscopical evidence of developing carcinoma at the level of the cicatricial obliteration of the tube. Wright[4] described a columnar-celled carcinoma of the appendix close to its insertion into the cæcum which had perforated near this spot and set up fatal peritonitis. It must be admitted that this last case and one recorded by Thiersch[5] are very much the same as carcinoma of the cæcum—a much commoner condition. In a boy, apparently the subject of appendicitis, Warren[6] found a round-celled sarcoma of the appendix with involvement of the glands extending back to the root of the mesentery. H. Gilford[7] removed the cæcum and appendix from a woman, aged 27 years, who had had trouble in that region for 13 years. It is described as a sarcoma around a calculus in the vermiform appendix, but after reading the case I do not see any convincing reason for doubting that the microscopical appearances were those of granulation tissue.

The rarity of primary malignant disease of the appendix is rather striking when it is considered how comparatively frequently carcinoma develops in another annexe of the alimentary canal, the gall-bladder, which resembles it in its liability to infection and in the occurrence of a calculous or lithogenic catarrh.[8] It is often said that fœtal relics and atrophying organs are especially prone to malignant disease, but whatever the value of this general statement, and I believe it to be rather exaggerated, it is not true of the vermiform appendix.

Primary malignant disease of the appendix is perhaps not so rare as would appear from literature for two reasons. 1. Because in the early stage of carcinoma the appendix may be removed for symptoms of appendicitis, and in the absence of a routine histological examination of removed appendices some cases may thus escape recognition. The present case is an instance in point, the condition naturally being unsuspected until a microscopical examination was made. It is the only case I have met with in a histological examination of 34 morbid appendices. 2. Because if the disease runs its course without interference a large mass of growth would probably result which might become adherent to the cæcum, the bladder, or the bowel, and then be thought to have originated there, rather than in such an unusual site as the appendix.

CLINICAL FEATURES.

It is remarkable that in three of the cases referred to above there were practically no clinical symptoms. When symptoms are present they are those of appendicitis. It is possible, on the analogy of tumour myelitis in the spinal cord that the growth sets up appendicitis, or, as suggested by Wright's case, that a small perforation may set up peritonitis around it. On the other hand Letulle and Weinberg's discovery of carcinoma developing in cases of obliterative appendicitis suggests that the growth is related to appendicitis much in the same way that carcinoma of the gall-bladder is related to cholelithiasis, which is of course the outcome of cholecystitis. It is, however, quite possible that the growth alone, without the addition of any ordinary inflammation, may account for the symptoms in some instances.

It may be worth while putting forward the suggestion that when apparently multiple primary (nodular) malignant disease of the liver occurs the vermiform appendix should always be carefully examined at the necropsy. It is hardly likely that multiple secondary growths would develop in the liver while the primary growth in the appendix is so small as to require microscopical examination. But it is quite conceivable that in a case of multiple carcinoma, apparently primary in the liver, the really primary growth might have been in an appendix previously removed for supposed appendicitis.

Upper Brook-street, W.

[3] Ibid., 1897, p. 47.
[4] Boston Medical and Surgical Journal, Feb. 17th, 1898.
[5] Berliner Klinische Wochenschrift, 1882.
[6] Boston Medical and Surgical Journal, Feb. 24th, 1898.
[7] THE LANCET, July 29th, 1893, p. 241.
[8] "Fæcal concretions" are, like gall-stones, products of inflammation of the surface surrounding them and not concentrated residues of its normal contents.

ON THE TREATMENT OF THE SO-CALLED "HAY-FEVER" OR SUMMER CATARRH.

BY KARL GRUBE, M.D.

SUMMER catarrh (*catarrhus æstivus*), also called "hay-fever," was first described at the beginning of this century by Dr. John Bostock[1] of London, who himself suffered from it. As the name implies, the affection occurs during the summer months, but chiefly at the time when grass flowers and during the haymaking time. But while many patients only suffer from it when they come near a hay-field others are also affected by any strong-scented flowers or by ordinary dust; several of my patients were always attacked on railway journeys in hot and dusty weather. The catarrh affects the mucous membranes of the eyes, nose, and lungs. In the same person the mucous membrane of all the parts mentioned may be affected or the catarrh may be limited to either the eyes and nose or to the bronchi. In the intervals between attacks the patients are either perfectly well without any affection of the respiratory organs, or there may be a tendency to catarrh of these organs or a chronic morbid condition of the nasal mucous membrane with thickening.

According to Beard,[2] hay-fever may arise at any season of the year and it is not at all peculiar to summer or autumn, although it is more frequent or more persistent at these seasons. With this view my own experience agrees, as I have seen cases of so called hay-fever as early as February.

In most of my cases, and in all cases which were treated successfully, a gouty tendency could be traced to be underlying the local affection, the patients either coming of a gouty stock without themselves having any other symptoms of gout or suffering from gout in some form or other—e.g., gouty rheumatism.

Strictly speaking the universally used term "hay-fever" is misleading, for, as I have already mentioned, the catarrh is not produced only by grass or hay, nor is it entirely limited to the summer months. One frequently finds on inquiry that persons who pronounce themselves to be suffering from hay-fever also suffer more or less freely from catarrhs at other times of the year, only the attacks are more frequent and more severe during the summer. In these cases, then, one sees that general tendency to catarrh of the mucous membranes so frequently to be observed in gouty subjects. Of course, not all cases of summer catarrh are due to gout, but according to my observations a large percentage of the patients suffering from it are gouty. Bostock himself mentions that he had a tendency to gout, and other writers also speak of a connexion between the two. I may quote, for instance, Gueneau de Mussy,[3] Leflaive,[4] and Lermoyez.[5] Sir Dyce Duckworth[6] also states that he has sometimes noticed the connexion between gout and hay-fever. A further proof of this connexion may also be found, I think, in the fact that hay-fever, like gout, is more common in England than in any other country.

If it should be true that the gouty disposition is often underlying the local affection we can *a priori* only expect success from a treatment that is directed against both. I have always acted on this principle and have always laid great stress on a careful and strict regulation of the diet on lines that are so well known as not to require to be detailed here. The local treatment consists in the application of the Neuenahr waters in the form of inhalations,

[1] Case of Periodical Affection of the Eyes and Nose, Medico-Chirurgical Transactions, 1819, x., and 1828, xiv.
[2] New Facts and Suggestions relating to Hay-Fever, New York Record, 1876, vol. iii., p. 680.
[3] Sur la Rhino-bronchite Spasmodique ou Fièvre de Foin, Gazette Hebdomadaire de Médecine, 1872, vol. ix., p. 9
[4] De la Rhino-bronchite Annuelle, &c., Thèse de Paris, 1887.
[5] Sur la Pathologie de l'Asthma de Foin, Annales des Maladies de l'Oreille, &c., 1888.
[6] A Treatise on Gout, p. 219.

gargle, and nose-douche. In cases in which there have been muscular and articular pains in addition to the catarrhal affection hot baths and massage have proved to be of great use. The best time for this sort of treatment, according to my experience, is during the months of May and June—that is to say, before the attacks of hay-fever have begun to show themselves. July I should not recommend; in August and September, however, I have treated cases with success. There are cases of hay-fever which do not respond to the treatment. These I have always found to be cases in which there was no history of gout, while in those cases in which the combination of gout and summer catarrh existed I have scarcely ever failed to obtain a good result. The following is the history of a few of my cases.

CASE 1.—The patient, a female, aged 19 years, had suffered from hay-fever for many years. There was a history of gout. The affection generally began towards the end of May. Hay, roses and other flowers, as well as heat and dust, immediately brought on an attack which began with sneezing and running at the eyes and nose, and which after a short time was followed by coughing. During June and July the attacks were of almost daily occurrence. In other respects the patient was perfectly well. There was some thickening of the mucous membrane of the nose, especially on the left side. Bleeding from the nose was easily brought on. The treatment as described above was carried out in April and May, 1897, with the result that there were no attacks of hay-fever during that summer. A second shorter course of treatment was thought advisable in April, 1898. There has been no recurrence of the attacks of hay-fever up to the present time (March, 1900).

CASE 2.—The patient, a female, aged 36 years, had suffered from hay-fever since the age of 15 years. Both her parents were gouty. The patient herself had suffered from rheumatic pains and articular swellings. She had severe attacks of hay-fever from May till August, recurring almost daily and much exhausting her. During the attacks there was great swelling of the upper part of the face, intense frontal headache, much secretion from the eyes and nose, together with coughing and a wheezing respiration. Local treatment of every description had been useless. Relief was only to be obtained by residing in a bracing place at the seaside. The patient was treated at Neuenahr during part of May and June, 1897, and though the attacks became less violent they did not entirely cease. The treatment was repeated in the following year with the result that no attacks of hay-fever occurred during that summer, nor has there been any recurrence since 1898, but I should mention that the patient has lately been more subject to rheumatic pains.

CASE 3.—In this case a history of gout was obtainable. The patient, a female, aged 42 years, was first treated for hay-fever at Neuenahr during 1895 with good results. She remained free from attacks during the following two years. In 1898 a relapse occurred which made her return to Neuenahr; she had after that no more attacks during 1898 and 1899.

CASE 4.—The patient, a girl, aged 10 years, came of a very gouty family and was herself a very delicate child. She has been suffering from severe attacks of hay-fever for the last four years. She was quite disfigured by the attacks. Her face was swollen and red, her eyes were inflamed, and there was constant running at the nose together with coughing and wheezing respiration. She contracted the attacks everywhere and from all sorts of causes, but especially from heat and dust. When she arrived at Neuenahr she was in the midst of one of her most severe attacks and was very prostrated. During the following four weeks she kept quite free from the attacks, nor did the long journey to St. Moritz affect her, although the weather was hot and dusty. She has since kept wonderfully well.

CASE 5.—This case is one of those treated without any success. The patient had suffered from hay-fever and asthma for several years. There was no history of gout. The attacks occurred almost daily during May and June. They began in the usual way with sneezing and increased nasal secretion, but their chief feature was violent coughing, a feeling of severe tightness round the chest, and a difficulty in breathing. The usual treatment was carried out but had to be given up after its ineffectiveness had been proved.

The following are the conclusions to which I am led. 1. There are cases of summer catarrh (so-called hay-fever) which can be cured, or at least relieved, by treatment with the waters of Neuenahr. 2. The cases especially suited for this treatment are those in which the affection is a part of the gouty dyscrasia. 3. Cases without a history of gout do not seem to be benefited by the treatment.

Neuenahr, Germany.

EXERCISES IN THE TREATMENT OF LATERAL CURVATURE OF THE SPINE.

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THE beneficial influence of gymnastic exercises upon the general health of the body has been recognised for ages and it is needless, in discussing the present subject, to dwell upon this fact further than to state that in treating curvatures of the spine everything which benefits the general health will materially assist other treatment.

My present purpose is to consider the local effects which may be produced upon a crooked spine by specified muscular exercises, either by correcting the shape of and strengthening the joints, or by strengthening any particular set of muscles connected with the deformity. In the first place it should be noted that it is impossible to lay down any hard-and-fast rules for gymnastic exercises by which to deal with every instance of curvature, because cases differ to such an extent that what is suitable to one individual would be totally wrong for another. Moreover, patients differ as regards the muscles they bring into use in carrying out the same movements. I will in the first place describe briefly the various kinds of lateral curvature and the application of gymnastics to their peculiar requirements.

CLASS 1.—That in which the most notable condition is debility occurring after illness or from some other cause. In these cases the muscular system being especially affected the patient is unable to hold his spine erect except for short periods, but in the early stage there is not any well-marked bony deformity. For such a condition a course of general active and passive exercises of the trunk and neck, and also of the legs and arms, will have a beneficial effect. As a rule, these exercises should be carried out while the patient is in a recumbent position. The general health of these patients always requires treatment by means of a nutritious diet and tonic medicines, some form of lime being especially beneficial. Massage is also helpful. It is usually also advisable to limit the amount of voluntary active movements in order to avoid producing fatigue.

CLASS 2.—In this class we find, in addition to the above symptoms, laxity of the ligaments of the spinal joints. For these patients exercises will be beneficial, but greater care must be taken to prevent the spine from subsiding into curves during the intervals between the exercises.

CLASS 3.—In which alterations in the form of the bones has already occurred. In these cases the exercises must be directed not only generally, but specially, in order to overcome these curves. For instance, the special exercise to be presently described to correct rotation is one of the most important.

CLASS 4.—In which the curves are more severe. For these patients some good may be done doubtless by a course of exercises, but less permanent effect must be hoped for than in the less severe cases.

In Class 1 mentioned above it is nearly always desirable to commence treatment by exercises and in many cases with the addition of massage. In Class 2, also, exercises may be carried out, but the patient should be carefully watched to determine whether he is really recovering and to detect when the disappearance of curves is more apparent than real. In Class 3 and Class 4 a combination of methods must be brought to bear upon the case.

Description of exercises.—A great variety of complicated exercising machines have been devised and used from an early date in the study of this deformity, but although these apparatus are very beneficial under some circumstances, it should be the object of the surgeon to simplify as far as possible the various movements carried out, with the view of teaching the patient to continue the treatment by himself as far as possible subsequently.

In the early periods of treatment of any case, however, the knowledge of the surgeon and the efforts of the skilled teacher are both necessary, and unless the curvature be very

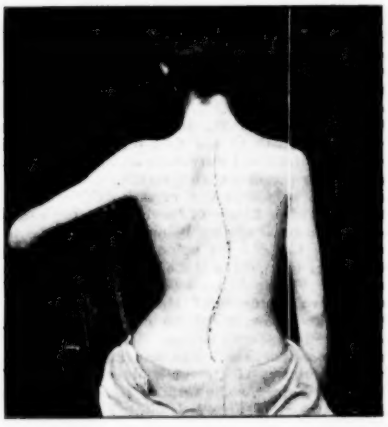
slight the medical supervision is required for a considerable time.

General exercises.—I have already stated that, as a rule, the patient should rest in the recumbent position whilst carrying out the general exercises. The object of the recumbency is to remove the weight of the body from influencing the curves.

We almost invariably find that where there is general debility and a weak muscular system there also exists laxity of the joints. Under such circumstances whenever the spine is in an upright position, whether the patient be standing or sitting, there is a certain deforming influence upon these lax joints caused by the superincumbent weight, and the spine consequently tends to give way in one or other direction.

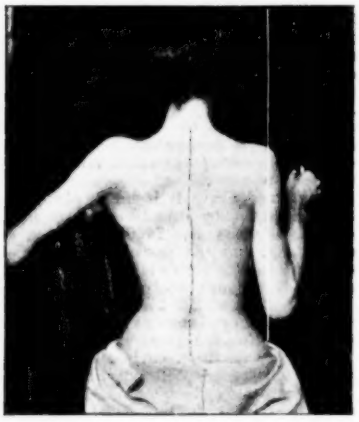
The object of general exercises is to strengthen the muscles and also, by bringing more blood to the weak parts, to nourish and strengthen the whole spine. The test as to when a patient may safely undertake exercises in an upright or sitting position must be his ability to control his spine in a straight posture for a sufficient length of time. For instance, when we have first examined the case the patient,

FIG. 1.



Dorso-lumbar curvature, the dorsal curve being most prominent about the tenth dorsal vertebra.

FIG. 2.



The same patient as in Fig. 1 drawing back the elastic expander with the right arm, thus using the muscles between the shoulder and the spinous processes of the deflected dorsal vertebræ, straightening the whole spine and unrotating the vertebræ. The vertical lines from the outer side of the pelvis show the relative positions of the side of the body, without and with the active exercise.

upon sitting in a chair, will, after a certain short period, have relapsed as regards his spine into one or other or several curves. When the time has arrived that he can sit up easily with the spine in a perfectly normal position not only as regards lateral but also in respect to antero-posterior posture for at least five minutes, then we need not restrict the exercises to the recumbent position.

FIG. 3.

The exercise for drawing back the prominent side of the thorax. Here the dorsal curve was to the left. The patient in Fig. 1 and Fig. 2 would have done this exercise with the left arm.

FIG. 4.

Arm extension, first position, with resistance by the patient. In the second position the arms are raised and the operator resists.

FIG. 5.

Arm extension, second position, in which the operator resists.

FIG. 6.

Arm extension without resistance, second position. In the first position the arms are flexed and the fingers touch the shoulders.

FIG. 7.

Arm extension, third position.

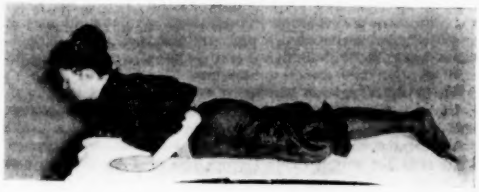
FIG. 8.

Simultaneous leg elevation. The arms are extended to balance the body. This exercise has a powerful effect upon the abdominal and lumbar muscles and has to be attained by gradual slighter movements.

FIG. 9.

Simultaneous leg and arm circling. The combination of these exercises is only carried out in exceptional cases and requires considerable strength.

FIG. 10.



This figure shows the first position for the exercises in Fig. 11 and Fig. 12.

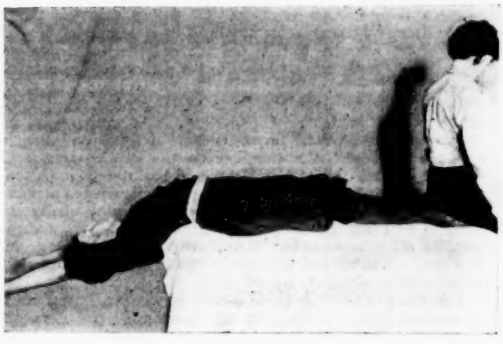
FIG. 11.

Body flexion backwards and forwards. This exercise requires considerable practice before it can be done *evenly* to the extent shown.

FIG. 12.

Kneeling body movement. It would require many figures to show the details of this exercise. Before it can be carried out satisfactorily more simple degrees of the position have to be practised.

FIG. 13.



Backward bending with legs fixed. If forward bending to a sitting position is required the patient must have the knees bent over the edge of a shorter couch and there fixed.

Exercises to act directly upon the curves.—In order thoroughly to realise the effect of exercises upon a curved spine it is necessary to consider carefully the exact action of the muscles which we propose to bring to our aid and the exact position of the parts which are distorted.

One exercise which has been recommended for acting directly upon the dorsal curve has been devised with the object of drawing out the concave side of the curve by use of the arm of that side, but this exercise tends to increase the twisting of the spine which is the most serious part of the deformity.

The muscles which extend from the arm to the spine are the trapezius, the rhomboidei, and the latissimus dorsi and these are attached to the spinous processes of the vertebræ.

It should be remembered that the spinous processes are directed, in consequence of the rotation of the vertebræ, towards the side of the *concavity* and that the rotation is the part that offers the more serious obstruction to treatment. The effect of this exercise is obviously to draw the spinal processes further in the direction of the concavity and consequently to increase the rotation.

The plan of special exercises which I have devised for acting upon the dorsal rotation consists in the use (1) upon the *convex* side of the curve of the muscles above referred to, with the object of drawing the vertebræ round towards their proper position; and (2) upon the *concave* side of the curve of the muscles which extend from the arm to the front of the body, with the object of drawing backwards that prominent side of the thorax. Although this plan of exercise acts directly only upon the dorsal curve, yet the resistance of the pelvis to the action of the arms tends to twist the lumbar part of the spine in the opposite direction and thus produces the exact action that is required. If more direct action is needed for a lumbar curve the quadratus lumborum may be brought into use upon the *convex* side of this curve, and this is best done with the patient in the recumbent position. The object of this system is to lessen the curves upon their convexities and to rotate the vertebræ back to their normal position.

Slight variations in these exercises must be made to suit individual cases, as there is nearly always some difference in the form and condition of the curves. The general exercises of the erector spinæ muscles of both sides should, as a rule, be carried out in addition to the special exercises now described and avoidance of fatigue and suitable rest should be observed.

In the earlier stages of treatment the special exercises should be conducted while the patient is lying recumbent both in the supine and prone position, but it will perhaps suffice here to describe these exercises as carried out in the sitting position.

For this exercise upon the convexity a hook should, in the first instance, be placed, as a rule, on a level with the top of the patient's shoulder while sitting, but often it is necessary to vary this position higher or lower before the desired effect upon the curve can be attained. It is remarkable how plainly this action when correctly performed, affects the curve. In slight cases the spinous processes may be drawn completely into a straight line at once and the projection of the ribs depressed towards a plane with the opposite side, showing that the vertebræ are rotated into or towards their normal position. Of course, this effect only lasts as long as the muscles are held in contraction, but the value of the exercise is thus proved, and the practical result is eventually a permanent lessening or removal of the rotation (Fig. 1 and Fig. 2).

In the exercise upon the front of the thorax (Fig. 3) the effect is less evident. The patient, in a sitting posture, draws the elastic cord forwards from a fixed point on or about a level with the shoulder on the side of the dorsal concavity, this point being situated behind the patient. This plan brings into use the muscles between the arm and the front of the thorax (the pectoral muscles), which thus tend to pull the front wall of the thorax unduly prominent on this side, backwards. Here, as in the former instance, the surgeon must see that the effect is beneficial before he allows the exercise to be practised.

Figures 4 to 13 show some of the postures adopted in the various exercises in the recumbent position.

It would be almost impossible to give illustrations of all the exercises which may be used beneficially in the treatment of curvatures of the spine; they have to be varied to meet the requirements of each individual case. Those given above will, however, afford a fair illustration of some of the more important positions produced in this treatment.

Queen Anne-street, W.

100 CONSECUTIVE CASES OF ABDOMINAL SECTION IN HOSPITAL PRACTICE WITHOUT A DEATH.

BY WILLIAM DUNCAN, M.D. BRUX., F.R.C.S. ENG.,
OBSTETRIC PHYSICIAN TO THE MIDDLESEX HOSPITAL; SENIOR PHYSICIAN TO THE CHELSEA HOSPITAL FOR WOMEN.

SUCH a series of cases as that about to be given is sufficiently rare to merit publication; indeed, I am not aware that a similar series has occurred hitherto in this country—at all events it has not been recorded.

On Oct. 7th, 1897, a patient on whom I had operated for ruptured extra-uterine gestation at the Chelsea Hospital for Women died suddenly on the seventh day from pulmonary embolism when she seemed to be doing perfectly well. From that date up to now (June 10th, 1900) all my sections at the above hospital are included in the following table. The cases, I may add, were the only ones admitted into my wards which required abdominal section. There was no choosing of favourable cases—indeed, the ninety-eighth case was about the worst of the series, being a suppurating ovarian cyst with pedicle tightly twisted three times, and the cyst wall was universally adherent, anteriorly to the parietal peritoneum and in the rest of its extent to the intestines, so intimately that the latter could only be freed by leaving a thin layer of the cyst wall adherent to them.

100 Abdominal Sections performed at the Chelsea Hospital for Women between Oct. 7th, 1897, and June 10th, 1900.

Uterine fibroids:		
hysterectomy	17	20
myomectomy	3	
Ovarian cysts:		
left	6	23
right	9	
double	4	
dermoids (one single and three double) ...	4	
Ventro-fixation		7
Extra-uterine gestation:		
ruptured	6	11
unruptured	5	
Pyosalpinx (double)		9
Hydrosalpinx (one single and three double) ...		4
Parovarian cysts...		2
Suppurating broad ligament cyst		1
Tubo-ovarian cysts (two simple and five suppurating)		7
Diseased and adherent appendages:		
right appendage removed	4	12
left appendage removed..	2	
both appendages removed	4	
adhesions broken down	2	
Ventral hernia		1
Exploratory incisions ...		3
		100

In most of the cases of pyosalpinx and suppurating tubo-ovarian cysts the tumours were so bound down by adhesions that during removal they burst, allowing the purulent contents to escape into the peritoneal cavity. Whenever this occurred the abdomen was thoroughly flushed out with sterilised water. Ventro-fixation was performed either for old-standing prolapse or for retroflexion with adhesions binding the fundus down to the sacrum. The most difficult operations of the series were those for diseased and adherent appendages. The patients had had repeated attacks of peritonitis and they suffered more or less continual abdominal pain, so that they were chronic invalids. In these cases on opening the abdomen all the pelvic organs were usually found to be densely matted together; the tubes and ovaries were matted to one another, to the pelvic wall, and to the intestines, so that usually the greatest difficulty was experienced in their removal. The one case of ventral hernia was in a woman on whom I had performed ovariotomy five years previously when the abdominal walls used to be sewn up with one layer of sutures. Nowadays, by sewing up the peritoneum, the rectal sheath, and the skin separately, ventral hernia is prevented. Exploratory incision without removal of any organ was performed three times. One case proved to be extensive malignant infiltration, the second was chronic cellulitis in the left broad ligament, and in a third a tumour of the size of an orange (probably malignant) was found to be growing in the posterior wall of the bladder.

The results of abdominal section at the Chelsea Hospital

for Women by my colleagues and myself have been so excellent for the last few years that I propose describing in detail the method of procedure. In the first place, the members of the Council deserve the greatest praise for carrying out so thoroughly and at such expense the recommendations of the Medical Committee. They have given us a perfect operating-theatre, complete in all its details, but even more important than that is the fact that they have fitted up a sterilising-room, opening out of the theatre, with boilers, &c., by means of which all instruments, towels, operating-aprons, &c., are rendered completely aseptic so that every possible precaution is taken to prevent the patient being exposed to noxious germs. Given, then, the above surroundings and given a resident medical officer and staff of nurses thoroughly imbued with the vital importance of asepsis, it is not to be wondered at that our mortality is so very small. I will now make a few remarks on certain details.

1. *Preparation of the patient.*—The day before operation the patient's pubes and abdomen are shaved and are then well scrubbed with carbolic soap and a nailbrush, special attention being paid to the umbilicus; a layer of wool soaked in a 1 in 1000 solution of perchloride of mercury is then applied and kept in position by means of a many-tailed binder until the time of operation.

2. *Operator and assistants.*—The hands and arms up to the elbow of the operator and his assistants are thoroughly scrubbed with soap and a nail-brush and then dipped (for at least a minute) in a 1 in 2000 hot solution of perchloride of mercury. A basinful of the same solution is kept at each side of the operating-table so that if during the operation the hands get fouled they can be rinsed in the solution. Personally I always prefer if possible that no other fingers than my own shall enter the peritoneal cavity.

3. *Instruments.*—Just before each operation the special theatre nurse sterilises all the instruments which are likely to be required. They are transferred from the steriliser direct to a glass tray containing plain-boiled water. If during the operation an instrument has to be got from the air-tight instrument-case the nurse at once sterilises it before handing it to the operator. The silk (I use nothing else) after being thoroughly sterilised is kept ready for use in glass bottles full of carbolic solution.

4. *Sponges.*—Although some operators use pads of aseptic wool sewn in gauze bags, I prefer sponges thoroughly cleansed, as they are less irritating to the intestines. During the operation they are simply wrung out of hot sterilised water, and of course if used in purulent cases or where the contents of an ovarian cyst consist of dirty grumous material, they should be destroyed directly after, but in these cases the gauze pads are best as they are inexpensive.

5. *Flushing.*—In all cases where a cyst with purulent or unhealthy grumous contents bursts during the operation I flush the peritoneal cavity thoroughly with plain sterilised water at a temperature of 110° F. but in no other cases. In operations on ruptured tubal pregnancies, after removing the large blood-clots with the hand and carefully mopping out the pelvis with a sponge on a pair of long forceps, I do not flush the peritoneal cavity unless the patient be very collapsed from loss of blood; then the flushing acts as a stimulant.

6. *Drainage.*—Some years ago I used to employ drainage frequently by means of a glass tube. Now I hardly ever drain, unless there be oozing from torn extensive adhesions low down in the pelvis on which a ligature cannot be put and the application of pressure forceps for a few minutes does not stop the oozing. I am confident that it is of the greatest importance to control all oozing before closing the peritoneal cavity and I do not hesitate to prolong the operation somewhat with that object. Drainage is not necessary after flushing out, but whenever it is employed the drain should be a piece of indiarubber tubing or iodoform gauze in those cases where some pressure is required to stop oozing. The drain should, if possible, be removed after 24 hours, though in some cases it might have to be left in for two or three days.

7. *After treatment of the patient.*—In cases of hysterectomy which are accompanied by a good deal of shock, and in cases where the patients are feeble or collapsed, a nutrient enema of two and a half ounces of beef-tea and half an ounce of brandy should be given within an hour or two and repeated every four or six hours. Nothing is given by the mouth for 24 hours unless there be no sickness and the patient craves for some fluid. She may in that case commence six hours after to take a teaspoonful of hot water every hour. Where the sickness and retching are very persistent and troublesome the administration of half a pint of hot water with 20 grains of bicarbonate of soda dissolved in it will often act most beneficially. Opium in any form should, if possible, not be given. After 24 hours nourishment can be taken (provided there is no sickness). Most patients crave for a cup of tea (about four ounces) with plenty of milk, and every hour afterwards half an ounce of equal parts of milk and hot water can be given. When the sickness continues I stop everything by the mouth and feed per rectum.

The two great dangers after abdominal section are, in my experience, shock and tympanites from intestinal paralysis. The shock is combated by hypodermic injections of three minims of solution of strychnia three times a day. For tympanites my plan is to try to prevent its occurrence by having a soft rectal tube passed up the bowel every four hours, and if after 24 hours flatus is not freely passing (either naturally or by the tube), an enema containing an ounce of oil of turpentine to a pint of hot water is injected high up and, if necessary, is repeated two or three times a day. Once the escape of flatus is satisfactorily established my mind is at rest and the patients almost invariably do well. Nowadays the onset of peritonitis after abdominal section should be practically never met with, unless some unavoidable occurrence (such as the rupture of a pyosalpinx) has happened during the operation, and even then with careful and thorough flushing out the risk is small. I am not a believer in the efficacy of saline aperients, either for tympanites or peritonitis; they certainly have not proved in my hands anything like so effectual as the turpentine enemata.

Such are the methods which were adopted in the series of cases just recorded, but I cannot conclude these cursory remarks without expressing my warmest thanks to my colleague, Dr. Ewen J. Maclean, for his valuable assistance at the operations; to our most excellent and energetic resident medical officer, Dr. Victor Bonney, who was unsparing of himself in his devotion to the after-treatment of the cases, and who, after two years as an indefatigable and courteous officer, is leaving the Chelsea Hospital for Women in order to take up another sphere of work to the great regret of every member of the lay, medical, and nursing staff; and, lastly, my thanks are cordially given to the matron (Miss Heather Bigg) and to the nurses for the excellent manner in which they always perform their important duties.

Note.—Since the above was written there are eight more cases to be added to the list, making altogether 108 successful cases.

Harley-street, W.

SUPPURATIVE PERITONITIS; SPONTANEOUS EVACUATION; RECOVERY.

BY JAMES R. WALLACE, M.D. BRUX., F.R.C.S. IREL.,
SURGEON TO THE HOME HOSPITAL, CALCUTTA.

THE patient was an English girl, four years of age, who was admitted into the Home Hospital on Feb. 18th, 1899, suffering from febrile symptoms, intestinal pain, and diarrhœa, with fœtid evacuations. She was pale, emaciated, and had a marked cachectic appearance. She had suffered now and then from a low form of intermittent fever and occasional diarrhœa, and had been under my care four or five times. On admission the abdomen was found to be tense, tympanitic, and tender, the skin was hot and dry, the temperature was 102° F., and the face was pinched and anxious-looking. The child was peevish and she cried a good deal. Her bowels were relaxed, the motions being watery, slate-coloured, and very fœtid; they consisted of mucus and serum, somewhat fæcal stained; there was a slight cough, but the lungs were quite clear. Urine was passed freely and was of a natural colour. She was given castor-oil emulsion containing two drops of terebene and one of laudanum every four hours, alternated with five drops of mercuric bichloride solution (British Pharmacopœia) in water every four hours. The body was sponged with tepid water every six hours to reduce the

temperature. The abdomen was smeared with belladonna suspended in glycerine. Her diet consisted of raw arrow-root (a teaspoonful of the flour in a wineglassful of water) alternated with strong beef-tea every two hours. Within three days the intestinal fœtor had disappeared, the temperature had fallen to 100°, and the child was discharged from the hospital, at the mother's request, on March 5th, 15 days after admission. She seemed very much improved in condition and was able to walk about, though there was still tenderness on pressure in the umbilical area. Three days later the mother brought her into hospital again, as the fever had returned accompanied by severe abdominal pain and tenderness on pressure. It was now noticed that the umbilicus bulged a good deal forward, and on palpation distinct fluctuation was apparent quite two inches around the umbilicus. The temperature was 101°. A condition of subacute general peritonitis, probably tuberculous in origin, with effusion tending to suppuration, was diagnosed, and laparotomy was recommended. Colonel Havelock H. R. Charles, I.M.S., Professor of Clinical Surgery to the Medical College Hospital, saw the little patient on March 9th. He concurred with the diagnosis and plan of treatment and it was decided to open the abdomen on the following day. As a preparation for it the abdomen was thoroughly cleansed and a layer of sterilised boric cotton was used as a protective over the abdomen and kept in position by a binder of iodoform gauze. On the next day, after removing the binder and cotton dressings, a small portion of the latter was found to be adherent above the umbilicus, and in the effort to remove it the tissue beneath peeled off, and instantly a stream of pus welled up in a jet, quite six inches high, and flowed for about three minutes, till no less than 24 ounces had escaped. It was perfectly healthy in colour and devoid of shreds or clots or flocculi. Gentle pressure over the abdominal wall seemed thoroughly to empty the peritoneal cavity of its purulent contents, and when this was effected the spontaneous aperture above the umbilicus was dusted with iodoform and dressed with boric wool and iodoform gauze. There was immediate improvement in the child's general condition, there being no further rise of temperature, no pain, and no further evidence of the intestinal disturbance. The appetite improved and the child slept and ate well. There was no soaking of the dressings up to the fourth day, when they were removed and the child was made to wear a light flannel binder for another week. She gained flesh rapidly, and in a fortnight she was able to get about as briskly and gleefully as though she had not been ill at all. She was discharged from hospital on March 27th—i.e., 17 days after the spontaneous rupture of the abdominal wall. It is now nearly 14 months since she left the hospital and she has not had a day's illness during this time. When I last saw her—i.e., on May 8th—I was struck with her remarkably healthy and robust appearance. This case would seem to corroborate the modern belief that tuberculous peritonitis is curable by laparotomy and aseptic irrigation, on the theory that while in the one instance the morbid products are removed by direct lavage, in the other, as in this case, the degenerated tuberculous matter was completely thrown off in the form of healthy pus.

Calcutta.

CONTAGIOUS CATARRH OR ROUP IN FOWLS, AND DIPHTHERIA IN MAN.

BY J. GORDON SHARP, M.D. EDIN.

Distinction between gapes and roup.—Two diseases of fowls—namely, "gapes" and "roup"—are often confounded, but the two are distinct and at the outset I must make this point clear. Gapes is caused by the presence of a nematode worm—*syngamus trachealis* (*sclerostoma syngamus*)—in the windpipe. The disease is found not only in the domestic fowl but also in the lapwing, the magpie, and the pigeon. The disease receives its name from the gaping attitude assumed by the affected animal. The eggs of the worm probably live in the soil. Gapes does not further concern us at present. Roup, on the other hand, probably depends on a micro-organism. This, then, is the disease or diseases which especially concern us at present. I say "disease or diseases," for it is not possible to say definitely whether the name "roup" covers only one or more than one disease. The name is given to a condition common among poultry, especially among those which are kept in towns and in overcrowded, damp, and badly ventilated hen or poultry runs. So far as I am aware very little has been written on the subject from the scientific standpoint although every hen-keeper possesses a specific for the condition which generally fails to cure his own birds, however successful it may be, or may have been, with the birds of others. The name of the disorder would appear to be given because of the peculiar sound which the bird emits, although my observations lead me to the view that the sound only appears in the cases in which the disease attacks the windpipe. In such a case the sound may be due to the air passing over the fibrinous exudation. Where the membrane occupies the mouth only or the mouth and alimentary tract no such sound is heard. The sound is a rough rasping one and the name "roup" describes it very faithfully. The laity describe a "dry roup" and a "wet roup." Dry roup is commoner in old birds and is not very fatal, while wet roup is commoner in young birds and is highly fatal. Dry roup answers to the condition in children spoken of as "croupy," while wet roup may resemble membranous croup—at least, it does so in its effects. Roup further resembles diphtheria in that it may kill with great suddenness, and epidemics of roup, like epidemics of diphtheria, vary in severity and malignancy. At one time we find that the disease breaks out in a coop and attacks only two or three birds and the deaths may be limited, while no other coop in the neighbourhood is marked out for attack. The next epidemic may be as severe as the former was mild and all save the old birds may be cleared out in the course of a week and the disease may spread to all the coops in the neighbourhood and be equally fatal. Roup is most common in autumn and spring but may be prevalent at other times provided the weather be mild and moist.

A short history of some epidemics.—In 1893 I had experience of the disease in a district where outbreaks occasionally occur and where likewise diphtheria in the human subject is endemic or almost endemic. Here the disease was confined to one hencoop, which was completely cleared out by it. The disease did not spread, but this may be due to the fact that the house was removed some distance from others. The owners of the fowls did not have diphtheria, but diphtheria did appear in the nearest houses to this particular house. This is all one can say. I may here say something about the character of the soil of the district. The surface soil is made up of a sandy loam, while the soil and subsoil consist of a bed of permeable clay.

In the same district in June, 1895, there was an extensive outbreak of roup. 57 hens and chickens died in one yard, 27 in another, 15 in a third, and 15 in a fourth, besides large numbers in other yards, but as I am not sure of the exact details I mention no numbers. These coops were all within a radius of half a mile and the disease started at the foot of a rising ground and slowly spread upwards. How far the disease might have spread it is impossible to say had not the various proprietors disposed of the remaining healthy birds and whitewashed their henhouses and left them untenanted for several weeks. In one of the families at least severe cases of sore-throat occurred, but I could not say that it was diphtheria. Soon after this outbreak among the fowls—but certainly after the epidemic had ceased—two or three cases of true diphtheria were seen in the families of those who had possessed affected animals. For the present I make no deductions, I merely state the facts.

So far I have been reasoning from roup in fowls up to diphtheria in man and for a moment I turn to consider the converse, or the relationship of diphtheria in man to roup in fowls.

In the district already mentioned during 1899 there was an extensive outbreak of diphtheria affecting both children and adults. The epidemic started at the end of January and extended into February, when it abated till the middle of June and continued till the end of December. During all this time, I think I may safely say, not a single case of roup occurred in the area covered by the diphtheria outbreak.

In 1896 I investigated another limited outbreak of roup which took place in another district removed some four miles from the one already mentioned. The owner had about 20 hens, several of which had died during the past two months. The disease had spread to the neighbouring hen-run (divided by a high brick wall), but I failed to get an examination of the fowls in this yard. None of the members

of the family had suffered from sore-throat, and diphtheria was hardly known in the district.

Later (in 1896) I inquired into another outbreak of roup in this district. In this outbreak hens and pigeons were attacked and the death-rate had been high and chiefly among young birds. None of the family had suffered from sore-throat and diphtheria was hardly known in the district.

Morbid anatomy.—The following particulars may be taken as typical of the conditions found in all the outbreaks. One bantam hen standing about, or walking lazily when aroused, I examined carefully. The mouth was red, swollen, and highly inflamed, and at the angle on one side was a piece of sloughing tissue which I removed, and part of which I examined under the microscope after staining with picro-carmine solution. The epithelium was healthy in some parts, while in others it showed a granular disintegration. Large cells with one, two, or three nuclei were also seen in the field and some of the cells showed nuclei almost extruded. The mouth contained on certain parts of its surface a fine membrane, a bacteriological description of which follows. The bird from which these specimens were obtained had a very unhealthy appearance, but it emitted no roupy noise. In another hen-run one bird which made a very roupy noise was examined. The mouth was congested and covered with a whitish sticky membrane. The entrance to the air-passages was deeply congested and swollen and this latter probably accounted for the roupy noise. In other birds the membrane was tough, whitish-grey, and possessed a foul odour; in others the mouth, nostrils, gullet, and entrance to the windpipe were deeply injected and were covered by a yellowish tough membrane; in others, again, the eyes appeared to suffer severely. In none of the cases was any paralysis observed, but this may have been owing to the rapidity of the fatal result.

Bacteriology of the membrane.—Without entering into details one may say that a micro-organism was found which after the most careful observations could not be distinguished from the Klebs-Löffler bacillus. But it cannot have been a virulent microbe, for the persons handling the affected fowls and without any special precautions did not directly contract the disease. This is an important point, for although, morphologically, the microbe isolated could not be distinguished from the micro-organism of true human diphtheria yet it did not seem to set up the disease in those brought into close contact with it. Further, it must be stated that a bacillus resembling the Klebs-Löffler micro-organism has been found in the mouth of healthy fowls.[1] On the other hand, it must also be stated that according to many reliable observers the Klebs-Löffler bacillus (or one morphologically indistinguishable from it) is often found in the throats of perfectly healthy people.[2]

Conclusions and deductions.—1. Roup like diphtheria (including the somewhat indefinite term "croup") varies in its malignancy, sometimes being mild with only one or two deaths in a large hen-run, while the next epidemic may almost clear out the whole coop. 2. The disease does not appear to be transmissible to man, for those handling the affected birds without any precautions do not suffer from any disease resembling diphtheria. 3. Paralysis was, according to my observations, absent in roup cases. 4. The disease is evidently a highly contagious catarrh and may correspond to the *morve* or fowl glanders of the French.[3] 5. Roup probably differs entirely from 'fowl diphtheria," so called. 6. As we have already seen, bird fanciers distinguish between a "dry" roup and a "wet" roup. Dry roup is most likely a simple benign catarrh corresponding to the recurring croup affecting children, especially those inhabiting valleys and near a river bank. Wet roup, on the other hand, in its malignancy resembles diphtheria and membranous croup. 7. The micro-organism of roup (the wet variety or malignant variety) probably lives for a considerable time at least in the earth near the surface[4] and thus it is readily spread from animal to animal (as well as by direct contact with affected birds). 8. Conditions of soil and surroundings favourable to the spread of diphtheria would likewise appear to favour the spread of roup in fowls.

Leeds.

[1] Dr. Allan MacFadyen and Dr. Hewlett, Brit. Med. Jour., April 21st, 1900, p. 894.

[2] Park and Beebe, quoted by Osler, Principles and Practice of Medicine, second edition, pp. 103 and 104. Others have also discovered the microbes in throats which were apparently healthy.

[3] M. Gallez fils made a report to the Belgian Academy of Medicine on "The Relation of Diseases of Fowls to Diphtheria." I have not seen the report itself but the following summary of it is given in THE LANCET of April 18th, 1896, p. 1082: "There are two perfectly distinct diseases to which such birds as domestic fowls are subject. First a contagious catarrh, called also *morve* or fowl glanders, characterised by a glairy secretion from the mucous membrane of the mouth, nostrils, and eyes, and also by rapid emaciation and paralysis of the legs. It is very contagious and very fatal and may give rise to diphtheria in the human subject. Its primary cause is a bacillus similar to Löffler's but far less virulent. ..... This disease differs from the second one which is known as fowl diphtheria both in its symptoms and in its etiology but has nothing corresponding to human diphtheria except its name."

[4] I found the Klebs-Löffler microbe (or one indistinguishable from it) in organically laden soil (see Brit. Med. Jour., August 22nd, 1896).

HYDATID CYST IN A NATIVE OF INDIA.

BY W. J. BUCHANAN, B.A., M.B. DUB.,
MAJOR I.M.S.; SUPERINTENDENT, CENTRAL JAIL, BHAGALPUR.

THE following case is published not on account of any clinical interest which it may have, but solely to put on record the fact that hydatid cysts are found, though very rarely, in natives of India who have never left their homes.

A native of the district of Bhagalpur was sent to jail in August, 1896, pending trial for rioting and murder. He complained at once of fever and pain in the right side and was admitted to hospital. On examining him I discovered a large abscess-like tumour in the right flank. No point of fluctuation being found I put in an aspirator needle and evacuated about a pint of highly fœtid thin pus-like fluid. The cavity of the cyst or abscess was then laid open, drained, and washed out with antiseptic lotions. In spite of this the patient did not improve and his temperature remained high (from 102° to 103° F.) up to the time of his death two days after. Death, I believe, was due to septic poisoning from the contents of the suppurating cyst. The abscess did not communicate with the peritoneal cavity.

The post-mortem examination made a few hours after death showed a large abscess cavity extending from the mid-axillary line, below the costal arch, up to the spinal column. All the other organs were found to be normal, but on removing the liver a yellow-white patch of cartilage-like colour was seen on the upper diaphragmatic surface of the right lobe of the liver. On cutting into this a considerable quantity of thin clear limpid fluid poured out containing numerous small cysts of a mother-of-pearl colour. The parent cyst was about as large as an infant's skull. Recognising it to be an hydatid cyst and knowing the extreme rarity of this affection in natives of India I did not further disturb the parts, but sent the liver to the professor of pathology at the Medical College, Calcutta, Dr. F. J. Drury, who reported to me as follows: "It is undoubtedly an hydatid cyst, containing a number of daughter and granddaughter cysts and numerous degenerated scolices." The abscess appeared to me to be a cyst which had suppurated. No cysts were found in any other organ.

Though not unknown, it is very rare to find this disease in India. Several cases have been recorded, but generally in Europeans or natives of India who have lived for some time in other countries. There are four specimens in the Calcutta Medical Museum, two from Europeans and two from persons of unrecorded nationality. Dr. Drury found hydatids post mortem in the body of an Eurasian who had lived in Australia. The Lahore Medical College Museum also contains a few specimens, but the nationality of the patients from whom they were taken is not known. Chevers[1] writes: "Our only evidence that hydatid disease can *originate* in India rests upon the debatable case of a low caste woman of Bhopal (Central India) who died with hydatids of the spleen." In this case, the woman being of the "sweeper" caste, who take care of and feed dogs, it is easy to understand the source of infection. Other cases are cited by Chevers, but in none of them is there clear evidence that the disease could not have been acquired out of India. It is this point which gives special interest to the present case, for I have ascertained from the deceased patient's family that *he never left his native home* except for a few months some years ago when he worked at the Raneegunge coal-mines in a neighbouring district.

The comparative exemption of natives of India from hydatid disease is strange as Dr. Cleghorn many years ago proved that tænia echinococcus very frequently occurred in cattle and sheep slaughtered for food in the Punjab. The same writer even started a theory that many cases of liver

[1] Diseases of India, p. 624.

abscess *might* be due to suppurative changes in hydatid cysts previously existing in the liver. This, however, has never been proved. Davidson in his "Geographical Pathology" makes no mention of India in his account of this disease and, strangely, the articles in Quain's Dictionary on this subject give no details as to the distribution of the parasite. The above case, however, proves beyond a doubt that hydatid cyst can occur in a native of India who has never left his own country.

Bhagalpur.

NOTE ON A NEW MEDIUM FOR THE GROWTH AND DIFFERENTIATION OF THE BACILLUS COLI COMMUNIS AND THE BACILLUS TYPHI ABDOMINALIS.

BY ALFRED THEODORE MACCONKEY.

(*From the Thompson-Yates Laboratories.*)

IN this medium advantage is taken of two well-known facts: (1) that the salts of bile are precipitated by acids, and (2) that bacillus coli communis produces acid in the presence of lactose while bacillus typhi abdominalis does not. The composition of the medium is sodium glycocholate,[1] 0·5 per cent.; peptone, 1·5 per cent.; lactose, 0·3 to 0·5 per cent.; agar, 1·5 per cent.; and tap-water, q. s. The lactose is added after filtration.

If stab cultures be made in this medium with bacillus coli communis and bacillus typhi abdominalis and incubated at 42° C. for from 24 to 43 hours it will be found that the tube inoculated with bacillus coli communis has become cloudy while the tube containing bacillus typhi abdominalis remains quite clear. If glucose be used instead of lactose both tubes become cloudy, but the cloudiness due to bacillus coli communis begins from below and that due to bacillus typhi abdominalis from above. In plates made with the glucose medium incubated for 48 hours at 42° C. and then left for from three to four days exposed to the light at room temperature the colonies gradually become orange coloured.

Though my experiments are not quite concluded I venture to draw the attention of bacteriologists to this medium because it has a more marked inhibiting effect than carbolised media upon the growth of ordinary soil and water organisms and may prove useful to those who are engaged in examining water, soils, and food-stuffs.

[1] The sodium glycocholate was supplied by Messrs. Baird and Tatlock and is, I understand, a mixture of the glycocholate and taurocholate.

THE EPILEPTICS AT WITHINGTON.—The Chorlton Board of Guardians are not at ease about the sane epileptic patients in their charge. From want of accommodation they are at present compelled to occupy the same wards as the imbecile and insane patients. This is obviously a state of things that should be remedied as soon as possible, for to some sane people, even though paupers, such association would be absolutely cruel. Dr. Rhodes said that the guardians were not responsible and that the blame should be laid on the Local Government Board who "were in default through their delay in giving sanction to the scheme which would make provision for these unfortunate people." Other places had the same complaint to make. Few will be found to contradict his further statement that "the methods of the Local Government Board were far too slow." He said he called a few days before at their offices and complained of the manner in which the Board treated the guardians, giving quite "a bit of his mind" to the, no doubt, astonished officials—i.e., if they could be astonished, for by this time such complaints must have lost all their novelty. "He considered the present methods of the Local Government Board were neither satisfactory nor even courteous to the guardians and were certainly not creditable to the former authority. He hoped the guardians would not further delay the provision of the additional accommodation at Withington workhouse. The treatment of epileptics was a matter concerning not merely the guardians of the Chorlton Union but almost every board in the country."

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum allorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ROYAL FREE HOSPITAL.

A CASE OF OBSTRUCTION DUE TO NEW GROWTH OF THE SIGMOID FLEXURE; INGUINAL COLOTOMY, FOLLOWED LATER BY RESECTION OF THE GROWTH; RE-ESTABLISHMENT OF THE INTESTINAL TRACT; RECOVERY.

(Under the care of Mr. W. H. BATTLE.)

AT the present day the treatment of malignant growths of the large intestine presents a very great contrast to that which was recognised as advisable even a few years ago. We seldom receive any intimation that a malignant growth is forming in the colon until symptoms of subacute or chronic intestinal obstruction arise. When such a case presents itself what treatment should be followed? Twenty, or even ten, years ago it was customary to remain satisfied with the performance of a colotomy, no attempt even being made to interfere with the primary cause of obstruction. At the present time much better results are obtainable. If the symptoms of obstruction are very severe a preliminary colotomy may be advisable, but in the less acute cases by far the best treatment is to resect the affected portion of bowel and re-establish the intestinal channel.

A man, aged 41 years, was admitted into the Royal Free Hospital on March 11th, 1900, complaining of intestinal obstruction. A fortnight before admission he had severe pain all over the abdomen and on March 1st his bowels were opened, but there had been no motion since, though some flatus had passed. As the abdominal pain steadily grew worse he took to his bed on the 4th. He was treated by a medical man but the pain did not abate. On the 6th vomiting commenced and had continued at intervals; he described the vomited matter as resembling coffee-grounds. He had been able to take nothing but milk and water since the 5th. There was nothing remarkable in his family history.

On admission the patient looked thin and ill: the abdomen was distended and tympanitic on percussion, but no distinct swelling could be made out and no peristaltic movements were visible. On examination per rectum nothing abnormal was discovered. Obstruction of the large bowel was diagnosed and, in the absence of Mr. Battle, Mr. T. P. Legg, the senior resident medical officer, decided to operate.

The skin of the abdomen having been washed and the patient anæsthetised an incision three inches long was made at right angles to a line drawn from the umbilicus to the anterior superior iliac spine, one-third of the distance from the spine, with the centre of the incision on the line. The incision was deepened until the peritoneum was reached; when this had been incised the large intestine was found and the sigmoid flexure was drawn out into the wound. The bowel was greatly distended and was secured to the edges of the wound by two stitches which did not penetrate the intestinal wall. Another stitch drew together the edges of the incision under the bowel, passing through the mesentery; this was in order to form a well-marked spur. The bowel was then covered with protective and gauze and the wound was dressed. On the next day the patient felt a little better and had no vomiting, but the bowels did not act. On March 13th he vomited a little. The intestine was opened and a Paul's tube was inserted for drainage; his temperature had not exceeded 100° F. Much faecal matter came away, but he vomited no more. The patient's condition steadily improved and the wound looked well. By April 5th he was allowed to get up every day.

On April 6th Mr. Battle decided to explore the abdomen for the purpose of discovering the cause of the obstruction and removing it if possible. The skin having been cleansed

Mr. Battle made a median incision, four inches in length, between the umbilicus and the pubes; the recti were separated and the peritoneum was incised. The operator's hand was then introduced and a hard mass was felt at the lower part of the sigmoid flexure, with some scattered hard mesenteric glands. The growth was brought outside the wound and as it was distinctly limited it was decided to remove it. The wound all round the exposed piece of bowel was packed with gauze and clamps of rubber-tubing were passed through holes in the mesentery and fastened with pressure forceps; two of these clamps were placed on each side of the growth and an inch apart. The bowel was then divided with scissors between each pair of clamps and the growth with some of the corresponding portion of mesentery was removed. There was some amount of hæmorrhage during the division of the mesentery, but it was soon stopped with pressure forceps. The divided vessels were then tied and the wound was packed afresh with gauze and the cut ends of the bowel were washed. These ends were then inverted and sewn up with Lembert's sutures. The pieces of bowel were then placed side by side with the ends in opposite directions and so placed that the posterior aspect of one piece lay against the anterior aspect of the other. Then the serous coats were united by continuous Lembert sutures for two inches in the long axis of the bowel, the ends of the silk being left long for future use. An incision of two inches in length was made in each piece of bowel parallel to the seam and passing through all the coats of the intestine. The adjoining edges of the incisions were united by continuous sutures passing through the mucous and muscular coats. Then a needle was threaded on to the long end of silk left from the first seam and the remaining portion of the suturing of the serous coat was performed by Lembert's method. The bowel was washed and replaced in the abdomen. The abdominal wall was then closed in successive layers and the wound was dressed with cyanide gauze. A length of about six inches of the bowel was removed. On section it was found that the lumen was almost closed; it proved to be a columnar-celled carcinoma.

The patient did well after the operation and free escape of fæcal matter occurred from the rectum through a tube which had been placed there to prevent any accumulation. He steadily progressed and on April 23rd a curved piece of wood covered by rubber tubing was introduced into the colotomy wound to press on the "spur." It caused a little pain, but the spur became much less obvious. The bowel was washed out daily both through the anus and through the colotomy wound. He was allowed to get up every day. On May 5th a different instrument was employed to exert pressure on the spur and in a few days solid motions were passed through the rectum. On May 15th Mr. Battle decided to close the colotomy opening. After the patient was anæsthetised and the skin around the wound had been washed an oblique incision was made above and another below the opening, and these were then joined so as to surround the artificial anus. By careful dissection the edges of the opening were dissected up without opening the general peritoneal cavity. Then the opening in the mucous membrane of the bowel was closed with 16 silk interrupted sutures. The sub-peritoneal tissue was united over the stitches and the muscles and skin were sutured separately. A drainage-tube was inserted.

After the operation the patient progressed satisfactorily. A small quantity of pus escaped for a few days from the tube and after the latter was removed a small collection of pus was found and opened, but later the wound healed and on March 5th the patient left the hospital completely recovered. He was seen at the hospital on June 29th, having recently returned from a convalescent home. He looked bronzed and well, having gained seven pounds in weight during his stay at the home. The bowels acted regularly and without difficulty; there was a small sinus in the site of the former colotomy opening from which there had been a little fæcal-smelling discharge.

Remarks by Mr. BATTLE.—On account of the distension of the abdomen and general condition of the patient no search was made for the cause of the obstruction when colotomy was performed. It appeared probable that this cause was a malignant stricture of the large bowel, probably the upper part of the rectum or sigmoid flexure, and it seemed a pity to let a man with the possibilities for further usefulness of this patient pass out of observation condemned to the life of an invalid, with a prospect of death in a few months from extension of growth to other parts, when it might be possible to lengthen life by removal of the growth and make it much more comfortable by a lateral anastomosis and closure of the colotomy wound. The details of the case do not differ much from those given in the description of similar cases treated in this way by me, and I need not refer to them. The apparatus made for getting rid of the spur is perhaps of interest, as it has proved useful. It consists when completed of a T-shaped instrument which can be easily made in the wards without special apparatus. Two pieces of ordinary firewood are taken, a long one (about three inches in length) and a short one (about two inches). The long one is drilled longitudinally through its centre by means of a red hot skewer: the short one is shaped like a bow. Both are covered with drainage tubing, a double piece of thread encircling the smaller is carried from its convex border up the centre of the longer one. The smaller piece is then placed astride the spur of the colotomy opening and the long arm is fastened to it by pulling on the string which is secured so as to complete the T. Pressure is applied by means of the dressings and body bandage. It is inexpensive, easily made, permits fæcal matter to pass it, and effectively acts on the spur. I have tried other methods of getting rid of the spur after colotomy, but none have given me quite such satisfactory results.

GOVERNMENT CIVIL HOSPITAL, HONG-KONG.

A CASE OF PNEUMONIC PLAGUE TREATED BY LARGE DOSES OF CARBOLIC ACID; RECOVERY.

(Under the care of Mr. J. BELL, Assistant Superintendent.)

As we have on some previous occasions pointed out, carbolic acid is much less poisonous than it is usually considered to be. The toxic symptoms which appear when the drug is taken in an undiluted form are almost entirely referable to the local caustic action. When taken with free dilution phenol gives rise to very few symptoms indeed; in many cases even the darkening of the urine ("carboluria") may not be present. With regard to the question of its therapeutic value in plague, it is as yet impossible to from an opinion, and we await with much interest the result of the extended trial of carbolic acid in the treatment of plague which Mr. Bell tells us he is carrying out.

A healthy Greek sailor, aged 24 years, was admitted into the Government Civil Hospital, Hong-Kong, on April 17th, with gonorrhœa. His temperature was 101°F. and save for the local condition he seemed to be well and made no complaint. His temperature for the next two days kept slowly rising and his tongue became more furred till the morning of the 20th when he was very apathetic, the temperature being 105° and the tongue very dry and furred; there were no buboes. The principal civil medical officer (Dr. J. A. Lowson) now saw the patient and agreed that there was a probability that he was suffering from plague. His lungs were full of coarse râles all over, but there was no dulness. Shortly after the consultation he began to spit thick bloody sputum, which on examination was found to be full of typical bacilli. As he was too ill to be moved to the Infectious Diseases Hospital he was at once isolated and put on a suitable diet with stimulants. Hypodermic injections of digitalis and strychnia were made every four hours and 12 grains of pure carbolic acid in solution were given every three hours. He continued to be very ill all day, the pulse was very quick and intermittent, he was delirious, and the temperature ranged between 105° and 106·4°. On the next day there was a marked though slow change for the better. His temperature slowly fell to 102° and only rose to 103·4° in the evening. The tongue was more moist, though it was still very furred, and the breath was offensive. Injections were not required so frequently as his pulse was stronger and not so quick, varying from 94 to 102. Bacilli were still in the sputum both morning and evening. His temperature slowly fell each day till the 24th, when it became normal. The sputum soon ceased to contain blood, though it was very free for 48 hours. His tongue remained moist and slowly cleaned and the patient expressed himself as feeling much better in every way. On the 24th there was no sputum and the lungs were quite clear. The carbolic acid was decreased after 48 hours to four hourly doses and was stopped on the 24th, from which date the patient convalesced rather rapidly. It was ascertained through his friends that he contracted the original trouble

at a house in the infected area some 14 days previously to his admittance to hospital.

Remarks by Mr. BELL.—This form of plague is extremely fatal and I know of no cure here. The case came under treatment early and he was a strong healthy patient, but the effect of the carbolic acid was most marked, and I report the case in the hope that others will at once try it, especially on Europeans, who come under treatment as a rule early. It is now being tried on every case admitted to the Plague Hospital, and as soon as 50 cases have been under treatment the results will be communicated. In all this patient had 280 grains of carbolic acid without any symptoms of poisoning by the drug. The original trouble for which he came to hospital was unaffected both by the plague and its treatment.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

The Bacteriology of Dysentery, Yellow Fever, and Diphtheria.—The Way in which Bones Break.—The Relation of Mosquitoes to Malaria.—The Composition and Action of Brown-Séquard's Fluid.—Neutralisation of Culture Media.

A MEETING of this society was held on June 30th in the Pathological Laboratories of the University of Cambridge by the invitation of Professor SIMS WOODHEAD, Dr. W. OSLER occupying the chair.

Professor SIMON A. FLEXNER (Philadelphia) made a communication on the Pathology of Tropical Dysentery. He said that an acute and a chronic form could be distinguished on clinical and pathological grounds. The acute form might terminate fatally in from 48 to 72 hours or it might be recovered from or become chronic. The chronic dysentery *per se* of the tropics was amœbic in nature. The acute variety was not caused by amœbæ; but from the stools a bacillus had been isolated differing from the normal intestinal flora and showing specific properties. It agglutinated with the blood serum of dysenteric cases. Its properties placed it very near the bacillus typhosus, from which organism it could be distinguished by biological and physiological peculiarities. The bacillus which was obtained from cases of dysentery occurring in and about Manila apparently was identical with an organism isolated by Shiga from the disease endemic in Japan. From a case of dysentery contracted in Puerto Rico the same organism had been obtained.

Professor FLEXNER also made some remarks on the Supposed Bacillus of Yellow Fever. The widespread fatty degenerations produced in the viscera in this disease were not special to this organism. Other organisms produced these changes and also hyaline necroses, just as the yellow fever bacillus did.

Dr. J. GRIFFITH (Cambridge) gave a demonstration on the Way in which Bones Break. He referred chiefly to the method of breaking by torsion. That was the easiest method of breaking a bone. He illustrated his remarks in the case of the femur, the ribs, and the clavicle and the tibia. A spiral fracture resulted from torsion. If the long axis of the bone was bent as well as twisted the spiral would be shorter.

Dr. GEORGE H. F. NUTTALL (Cambridge) gave a demonstration upon the Relation of Mosquitoes to Malaria. The demonstration consisted in the exhibition of the developmental changes undergone by avian and human parasites in species of culex and anopheles respectively, these being illustrated by means of specimens, photo-micrographs, and drawings. Living specimens of anopheles maculipennis, caught by Dr. Nuttall in the vicinity of Cambridge, as also of culex, were shown in tanks, and their biological characters were referred to. Maps showing the geographical distribution of malaria over the world and its former prevalence in England were exhibited, and the present geographical distribution of the genus anopheles, as far as was known, was described. A decided agreement between the former distribution of malaria in England and the distribution of anopheles (anopheles maculipennis, anopheles bifurcatus, anopheles nigripes) at the present time was observable. The studies regarding this distribution were, however, not as yet concluded. The development of human malarial parasites had been observed in nine species of anopheles in different parts of the world (India, Africa, Italy, and the United States), whereas all experiments made with species of culex, at least ten (in Italy, Africa, and India), had given negative results. Although it was quite possible that a species of culex might be found which was capable of serving as intermediary hosts to human parasites, the evidence hitherto gathered pointed solely to anopheles as fulfilling this function. The interesting fact that anopheles persisted in England whilst malaria had to all appearances disappeared was a subject for further investigation. The disappearance of the malarial parasites might very well be due to a progressive diminution in the number of anopheles, a plentiful supply of which was absolutely necessary for their continued existence. There might, however, be other factors concerned in their disappearance which still remained to be discovered. The suggestion that it might be due to the anopheles in England not sucking blood was untenable, for Dr. Nuttall had proved the contrary by experiments upon himself.

Dr. LOUIS COBBETT (Cambridge) showed some Cultures of Bacillus Diphtheriæ which had been obtained from the nasal discharge of a pony. The original culture was sent by Dr. Mearns Fraser, medical officer of health of Portsmouth, who while investigating the causation of an attack of diphtheria in a little girl had noticed that her father's pony was suffering from a purulent and slightly sanguineous nasal discharge. Experiments were described which established the identity of the bacillus. The horse had hitherto not been known, among animals, to suffer from diphtheria.

Dr. COBBETT also described experiments showing that Diphtheria Toxin was Excreted in the Urine, both from susceptible and from relatively insusceptible animals—e.g., the guinea-pig and the rat. From these animals, injected with diphtheria toxin, the urine secreted during the next few hours was collected with a catheter and injected subcutaneously into guinea-pigs. It produced an inflammatory swelling at the seat of inoculation, followed by dry necrosis, falling out of the hair, and in one instance death. Control experiments were made with the same urine to which a little antitoxin had been added. Other control experiments also were made with the urine of normal animals.

Dr. W. E. DIXON (Cambridge) made a communication on the Composition and Action of Brown-Séquard's Fluid. He gave an abstract of the results of experiments which he had performed by injections of orchitic extract of different animals. The composition of orchitic extract of all animals was practically identical. The active principles consisted chiefly of two bodies—(1) nucleo-albumin; and (2) spermine. The former he showed was very toxic, producing great cardiac inhibition reflexly through the cardiac nerve centres. The latter, spermine, which was also present in considerable quantity in semen, produced its effect principally by producing congestion of the abdominal viscera, including both the testes and ovaries.

Dr. J. W. H. EYRE made a communication on the Neutralisation of Culture Media. He remarked on the uncertainty of litmus paper and of litmus solution. He advocated a standard medium among English bacteriologists by the use of phenyl-thalein as an indicator of the alkalinity of culture media.

Votes of thanks to Professor Sims Woodhead and the University authorities and to those who had communicated their researches terminated the meeting.

EDINBURGH OBSTETRICAL SOCIETY.

Exhibition of Specimens and Micro-photographs.—Suppression of Urine following Cystitis.—Cæsarean Section followed by Sub-peritoneal Hysterectomy.—Cleansing the Peritoneum during Celiotomy.—Eclampsia treated by Saline Effusion and Veratrum Viride.

A MEETING of this society was held on June 27th, Dr. R. MILNE MURRAY, the President, being in the chair.

Professor A. R. SIMPSON showed (1) a Dermoid Cyst of the Ovary which formed the channel of a Fæcal Fistula; and (2) two Fibroid Uteri removed by Panhysterectomy.

Dr. J. LAMOND LACKIE showed an Early Extra-uterine Gestation.

Dr. J. HAIG FERGUSON showed a Uterus removed by Vaginal Hysterectomy for Cancer of the Cervix.

Mr. J. STUART NAIRNE (Glasgow) showed a Uterus with Placenta *in situ* removed from a Dwarf by Cæsarean Section at full term.

Dr. N. T. BREWIS showed (1) a Subperitoneal Fibroid

removed from the Uterus; and (2) an Appendix removed just on the point of bursting.

Dr. JAMES FOULIS exhibited Micro-photographs of Sections of the Embryo and Yelk Sac of the Deer showing the double layer of the amnion continuous with the somatopleure.

Dr. LAMOND LACKIE read a paper on a case of Suppression of Urine following Cystitis. The patient first came under observation eight years ago when she had all the symptoms of chronic cystitis. The usual treatment by irrigation, diet, and drugs was adopted without effect and the pain during micturition continued in an aggravated degree. The urethra was dilated by Hegar's bougies so that the bladder might be explored. This gave complete relief of all the symptoms, but, unfortunately, the patient never regained control over the act of micturition. By the aid of a portable urinal, however, she became fairly comfortable. Although repeatedly advised to do so she always refused to submit to any further treatment to cure the incontinence as she dreaded a return of her former symptoms. In March of this year Dr. Lackie was called to see her and was informed that except for some sickness she was quite well, but she had not passed any urine for nine days. Diuretics were given and hot-air baths were used with the result that 24 hours afterwards urine commenced to flow freely. For eight days the patient improved when suddenly excessive sickness set in and complete suppression of urine supervened. She had none of the usual symptoms of uræmia which are supposed to be always present in non-obstructive suppression. The patient gradually became comatose and died 48 hours after the onset of the second attack of anuria. Post-mortem examination showed that the bladder was reduced to the size of a small tube and that the right kidney was in a condition of acute septic nephritis, whereas the tissue of the left kidney was entirely replaced by tuberculous material. In conclusion Dr. Lackie discussed the literature of the subject.

Dr. N. T. BREWIS read notes of a case of Cæsarean Section followed by Sub-peritoneal Hysterectomy. It was performed at term for contracted pelvis. The patient was pregnant for the fifth time. Her first child was stillborn at seven months, delivery being brought about by forceps and great force being required to effect it. Two early miscarriages followed and then came a labour at full time which was completed by basilysis. The true conjugate measured from two and a half to two and three-quarter inches. The question of the particular operation to be adopted in this case was discussed. Symphysiotomy was out of the question because it had been premised that measures would be taken to prevent a future conception. One of the following operations might be chosen: (1) Sänger's Cæsarean section; (2) Porro-Cæsarean section; (3) Cæsarean section followed by panhysterectomy; or (4) Cæsarean section followed by sub-peritoneal hysterectomy. Dr. Brewis had performed the Porro operation some years ago in two cases and panhysterectomy four times for new growths between the fourth and sixth months of pregnancy with success. The latter operation was attended with no special difficulty and was as easily performed as the Porro operation. The subsequent risks of hæmorrhage and sepsis, he considered, were greater with the Porro operation. He would restrict Porro Cæsarean section to cases where the patient was in an exhausted state and where the operator had not proper assistance, as it was an operation which could be done very quickly. He decided against improved Cæsarean section on account of the danger of the subsequent gaping of the uterine wound, hæmorrhage, and peritonitis, and because the patient was liable to all the risks associated with the puerperium. There was little to decide between Cæsarean section followed by panhysterectomy and that by subperitoneal hysterectomy. The latter method was selected owing to his having had experience of the technique in removing fibroids. In this case the child was born alive and the mother made an easy recovery.

Dr. N. T. BREWIS also read a paper on Cleansing the Peritoneum during Cœliotomy. Irrigation was now less frequently resorted to than formerly, as surgeons had more confidence in their technique and in the power of the peritoneum to dispose of fluids and minute solid particles and to resist the invasion of pyogenic bacteria. There was, however, special danger of peritoneal contamination in the bursting of a pyosalpinx, ovarian abscess, or similar condition during operation. In removing pus sacs of the appendages the patient was placed in the Trendelenburg position. On opening the peritoneal cavity numerous adhesions would probably be found between the omentum and pelvic organs, intestines, and parietal peritoneum. These being separated would be drawn up and packed off with gauze pads, so that the only part of the intestinal tract left in the pelvis was the rectum. The pus sacs could now be liberated and brought out through the abdominal wound. Careful handling was necessary to prevent rupture, and with this object the sac might be aspirated before it was drawn up. In this way the operator would in many cases be able to successfully remove the diseased parts without contaminating the peritoneum. But in spite of precautions pus would escape by rupture of thin walls or from swellings where its presence was unsuspected. Was the surgeon then to consider the pus sterile and unlikely to produce serious results and simply to trust to sponging; or was he to look upon the presence of even a small quantity of pus as dangerous and to do all in his power to get completely rid of it? Most surgeons adopted the latter view. The plan adopted should not spread the infection and the irrigation should thus be confined to the peritoneal area already contaminated. Care should be taken to prevent the water from flowing up among the intestines and distributing the infection. Whenever pus was seen to be escaping from a ruptured sac the part should be covered over with a large gauze pad. Then the general cavity of the peritoneum was carefully packed off and protected in a similar manner. The diseased structures were then removed. A long pair of forceps or blunt-pointed scissors were then passed into the vagina and their points were pushed through the posterior fornix into the pouch of Douglas; the opening was enlarged by separating the blades. The pelvis was then lowered and its cavity was irrigated from above by introducing the end of the douche through the abdominal wound. The stream of water or normal saline solution washed out the pelvis and escaped through the opening at the bottom of the pouch of Douglas into the vagina and out at the vulva. By this method there was no chance of infection being carried up into the general peritoneal cavity and it permitted of the most thorough cleansing.—Mr. J. STUART NAIRNE, Dr. F. W. N. HAULTAIN, Dr. J. W. BALLANTYNE, Dr. J. FOULIS, Dr. W. FORDYCE, and the PRESIDENT discussed the papers.

Dr. J. W. BALLANTYNE read a clinical note on a case of Eclampsia treated by Saline Infusion and Veratrum Viride. The patient was at the sixth month of her second pregnancy; her first had passed off normally without any appearance of dropsy or abnormal symptoms. For a week before the fits she had noticed that her urine was unusually pale and for a month she had suffered from some swelling of the legs. Shortly before the first fit she experienced a severe pain in the epigastrium followed by violent headache. The urine passed previously to the fit contained two-thirds of albumin and nothing was found on microscopical examination. The condition was treated with enemata of bromide of potassium and chloral hydrate and hypodermic injections of veratrum viride, and the convulsions were controlled by the inhalation of chloroform. A pint and a half of saline infusion were injected into the loose tissue below the breasts. Shortly afterwards the urine was drawn off by catheter, the patient being comatose, and was found to amount to several ounces; it contained blood and more than two-thirds albumin, with numerous epithelial and granular tube-casts. As the condition was grave it was thought advisable to procure abortion. This was done by inserting and leaving a bougie in the uterus; neither Champetier de Ribes's nor Barnes's bag would pass the internal os. Labour pains came on very slowly and the child was born on the next day. In all 18 fits occurred. The fits had subsided and the patient had regained consciousness before the labour had properly started. As the fœtus was born alive fœtal death could not be invoked as a cause of the cessation of the fits. The patient steadily improved and in a week the urine contained only a trace of albumin and in 16 days it was normal. An interesting point with regard to the urine was noticed. Specimens were preserved of urine passed before the onset of the convulsions, during the fits while the patient was comatose, after the delivery, and daily for the next four days. All were kept in corked bottles with no special precautions. Three weeks afterwards the last four were found to be alkaline in reaction and then showed signs of decomposition; later specimens showed more marked evidences of decomposition. The first three specimens, however, which were much older than the others, were still all acid; the first one, although acid, was now beginning to show slight signs of

decomposition; the second one, drawn off during the eclampsia, was quite undecomposed, although nearly a month in the bottle; and the third, which was also acid, was equally sweet.—In the discussion it was suggested that the non-putrefaction might be due to some special recondite substance in the urine associated with the occurrence of eclampsia and excreted by the kidney; also that it might be due to the presence of chloral in the urine, but the first specimen was obtained before any drug was given.—The PRESIDENT and Dr. FOULIS discussed the paper.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Dupuytren's Contraction of the Palmar Fascia.—Operation for Cleft Palate.—Truss Gauge.

A MEETING of this section was held on May 11th, Mr. R. L. SWAN, the president, being in the chair.

Dr. J. KNOTT read a paper on Dupuytren's Contraction of the Palmar Fascia. He had recently observed a series of cases in elderly soldiers, most of whom gave no history of local injury or irritation. One had suggested that the prolonged holding of the rifle had something to do with the flexion. One had received a bullet wound in the groove between the thenar and anti-thenar eminences of the right hand. The cicatrix was limited to this region, yet it proved the starting-point for the contraction of the whole palmar fascia, the condition afterwards developing on the left side, as it had done in all the cases which he had seen. He had recently met with two strikingly contrasted cases—one in a free-living man who presented the extreme degree of flexion in the ring finger, the little finger, and the middle finger of both hands; the other in a teetotaller, in whose case the deformity was but slight but perfectly typical. Dr. Knott looked upon the process as essentially of the nature of gouty or rheumatic-gouty inflammation. He had operated on two cases with a fair degree of success, but from the nature of the conditions he considered a "perfect cure" impossible in any case.—Mr. E. H. BENNETT remarked that he had the condition, which had developed in his right hand and was beginning to develop in the left also. He could appreciate the justice of the remark that it commences in the ring finger. Being a racket player he might attribute it to the irritation caused by the butt-end of the racket, but this explanation would not apply to the left side, and its symmetrical development therefore puzzled him. He had dissected many preparations, but could discover no satisfactory explanation of its causation.

Mr. TAYLOR described his New Operation for Cleft Palate, drawing special attention to the anatomical facts that the principal vessel distributed to the hard palate reaches it at its posterior part, having emerged from the posterior palatine foramen at the inner side of the alveolus of the last molar tooth, and that in the palate this vessel takes a curved course close to the alveolar border of the maxilla, its main offshoots proceeding towards the middle line from its inner concave border. He stated that his operation was essentially indicated for clefts of the complete variety—namely, those which advanced quite up to or near the teeth in front. For the operation the patient was put in Rose's position on a low operating table. A Smith's gag was introduced into the mouth, and the edges of the cleft were pared freely. Blood and saliva were removed by a suction apparatus and as far as possible sponging was dispensed with. A curved incision was made on each side close to the alveolar margin of the palate from the level of the last molar tooth behind, and terminating in front of the middle line behind the incisor teeth. The posterior palatine artery was thus included in the flap. The latter was reflected on each side by means of a rugine, and not by any of the various forms of raspatory which are usually recommended. The flap, thus completely lifted up from before backwards, was held back and the junction of the soft with the hard palate was divided with a knife or with a pair of curved scissors. Bleeding was easily controlled by digital pressure. Silkworm gut or silver wire was employed in bringing the edges of the flaps together and Mr. Taylor laid great stress upon the facilities afforded by the mobility of the flaps in carrying out this step of the operation. The free ends of the flaps in front were securely fixed to the tissue of the gum behind the incisor teeth, care having been taken in marking out the flaps to leave enough for this purpose. Should it be necessary a lateral incision might be made on each side at the junction of the hard and the soft palate, and at the inner side of the hamular process, so as to relieve tension and secure rest to the palate during the process of healing.—Mr. E. H. BENNETT, Dr. G. J. JOHNSTON, Mr. J. LENTAIGNE and others discussed the paper.

Mr. T. KELLY of Enniscorthy described the Truss Gauge, an instrument consisting of two overlapping steel truss springs. On the surfaces where this overlapping took place divisions were marked, and in each division there was a corresponding character or number. In the case with each set there was a bundle of cards with divisions printed to correspond to the division on the truss gauge, so that the necessary dimensions could be filled in and transmitted to the instrument maker.

SECTION OF ANATOMY AND PHYSIOLOGY.

Cranio-cerebral Topography.—Nasal Fossæ.—Configuration of the Heart.—Lymph Circulation.

A meeting of this section was held on June 1st, Professor D. J. CUNNINGHAM being in the chair.

Dr. E. H. TAYLOR read a paper on Recent Researches on Cranio-cerebral Topography conducted by himself and Dr. W. S. Haughton. They recommended the employment of the following landmarks, which were easily located and were of undoubted utility: the centre of the naso-frontal groove or nasion; the external angular process of the frontal bone; the depression immediately above it, or the orbito-temporo angle; the external auditory meatus; the pre-auricular point; the zygoma; the external occipital protuberance or inion; and a straight line connecting the nasion and the inion. The procedure adopted was as follows. Several subjects, of ages varying from one year to 60 years, were injected with a 10 per cent. solution of formalin. By this means the tissues were well hardened and could be readily cut *en bloc*. The head in each case was removed from the trunk and was divided accurately in the sagittal plane. The cerebral hemispheres were then removed, and this was easily done in consequence of the very firm consistency of the brain substance. Before removal, however, their exact position inside the skull was carefully noted. The pia mater was removed and strips of very soft and pliable tin wire were introduced into the principal fissures. The corresponding half of the skull was now brought down over the hemisphere, which, by its mesial aspect, lay on a smooth slab of glass. Skiagrams were then taken of each half of the head and this part of the investigation was conducted by Dr. Haughton. In all cases good views were obtained, and as the result of the information which they afforded a method was adopted for mapping out the principal fissures, of which the following is a summary. There are three fundamental fissures which it is necessary to localise, as they separate the four main lobes of the brain—namely, the fissure of Silvius, the fissure of Rolando, and the external parieto-occipital fissure. The distance between the nasion and inion is first carefully estimated and is divided into four equal parts. From the orbito-temporal angle a line is drawn to the junction of the third and fourth segments of this line (naso-iniac). It corresponds to the posterior limb of the Sylvian fissure for the greater part of its extent, and is, therefore, called the Sylvian line. The Sylvian point is the term employed to indicate the level at which the main stem of the fissure reaches the outer aspect of the hemisphere and divides into its anterior, vertical, and posterior limbs. It corresponds to the intersection of the Sylvian line with another drawn from the junction of the first and second segments of the naso-iniac line to the pre-auricular point. In certain of the heads examined it would have been more correct to have made this line terminate opposite the centre of the external auditory meatus. The posterior extremity of the Sylvian line overlies the external parieto-occipital fissure. This point represents 75 per cent. of the distance between the nasion and the inion. The general direction of the fissure of Rolando is found by connecting the two following points by a straight line. The upper point is on the middle line of the head and three-quarters of an inch behind the centre of the naso-iniac line, or as near as possible 55 per cent. of the naso-iniac distance. The lower point corresponds to the intersection of the Sylvian line with another line starting from the pre-auricular point and perpendicular to the upper

borders of the zygoma, or to a line connecting the centre of the infra-orbital margin with the centre of the external auditory meatus.—Professor CUNNINGHAM and Dr. DAWSON discussed the paper.

Dr. FAGAN gave a lantern demonstration of a series of normal and pathological Nasal Fossæ prepared to show the various parts of these cavities and their relations to the surrounding structures.

Dr. CHARLES J. PATTEN read a paper on the Configuration of the Heart in Man and some other Mammalian Groups. The communication dealt chiefly with the modifications in form which have taken place in the heart of man following the erect posture. In specially hardened specimens the conical shape of the human heart had almost disappeared. In many quadrupeds which carried the trunk prone the true conical shape of the heart persisted.

Mr. J. S. ASHE read a note on the Lymph Circulation, in which he advanced the view that one of the forces which helped to carry on the lymph circulation was the dilatation of the aorta which took place at each systole of the heart, pressing on the thoracic duct and increasing the pressure in the posterior mediastinum. His theory was illustrated by a schema which showed by means of elastic tubes the suggested effect of the dilatation of the aorta on the thoracic duct.

ULSTER MEDICAL SOCIETY.—The annual meeting of this society was held in the Belfast Museum on Thursday, June 21st, the President, Dr. James Graham, being in the chair. After the reading of the minutes the various reports were presented and passed. From these it appeared that there were seven meetings held during the past session with an average attendance of 36 members on each occasion. There are now 148 members on the roll of the society, and there is financially a balance in hand of over £55. The following office-bearers were then elected for the session 1900-1901:—President, Professor W. H. Thompson; Vice-presidents, Dr. E. C. Bigger and Dr. R. W. Leslie; Council, Dr. W. Calwell, Dr. H. McKisack, Professor Byers, Dr. John Campbell, Dr. A. Dempsey, and Dr. J. Colville; treasurer, Dr. John McCaw; pathological secretaries, Dr. J. Lorrain Smith and Dr. T. Houston; librarian, Dr. T. S. Kirk; secretary, Mr. Robert Campbell. A discussion took place on a report of a committee appointed by the North of Ireland Branch of the British Medical Association and the Ulster Medical Society in reference to the formation of an Ulster Board for the examination of nurses, but it was decided to refer the whole subject back to the councils of these two societies for further consideration. On the motion of Professor Byers a very cordial vote of thanks was accorded to the retiring secretary, Dr. James Colville, who for the past three years has devoted much time and attention to the affairs of the society.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.—The following have been elected as office-bearers for the ensuing year:—President: Mr. John Ackery. Vice-Presidents: resident, Mr. W. A. Maggs, Mr. Arthur S. Underwood, Mr. F. J. Bennett; non-resident, Mr. J. Henry Whatford (Eastbourne), Mr. G. Brunton (Leeds), Mr. W. S. Woodburn (Glasgow). Treasurer: Mr. W. H. Woodruff. Librarian: Mr. H. Baldwin. Curator: Mr. Storer Bennett. Editor of Transactions: Mr. J. F. Colyer. Honorary Secretaries: Mr. J. H. Mummery (Foreign), Mr. C. F. Rilot (Council), Mr. A. Hopewell Smith (Society). Councillors: resident, Mr. E. Lloyd Williams, Mr. W. J. England, Mr. J. O. Butcher, Mr. J. H. Reinhardt, Mr. H. G. Read, Mr. H. Lloyd Williams, Mr. W. Rushton, Mr. R. Wynne Rouw, Mr. G. Northcroft; non-resident, Mr. Walter Harrison (Brighton), Mr. Alexander Kirby (Bedford), Mr. Martin Henry (Folkestone), Mr. D. Corbett, jun. (Dublin), Mr. Rees Price (Glasgow), Mr. G. O. Whittaker (Manchester), Mr. T. Mansell (Birkenhead), Mr. W. A. Rhodes (Cambridge), Mr. W. Glaisby (York).

BRISTOL EYE HOSPITAL.—On June 28th and two following days a very successful carnival was held at the Zoological Gardens, Clifton, in aid of the funds of the Bristol Eye Hospital. The carnival was opened by the Dowager Duchess of Beaufort and it is hoped that a considerable sum has been raised for the institution.

Reviews and Notices of Books.

Recollections of My Life. By Surgeon-General Sir JOSEPH FAYRER, Bart., K.C.S.I. London: William Blackwood and Sons. 1900. Price 21*s*.

THIS volume, which is most appropriately dedicated to Lady Fayrer in remembrance of 45 years spent together, is a brilliant record of experiences the equal of which have befallen few members of our profession. It contains the memories of a varied and eventful life, and from the way in which it is written we feel it must have given the author as much pleasure to put together as it does to the reader to peruse. The book will no doubt have a large circulation among the general public, and we can recommend it strongly to Sir Joseph Fayrer's civil brethren, who will thus have very clearly brought before them the great responsibilities attaching to the higher places in medical official life. By the medical officers of the army both at home and abroad the book will be read and treasured as the record of the life-work of a brother-officer who has been peculiarly successful in a higher sense than the one which usually appeals most strongly to human nature.

In some 500 pages Sir Joseph Fayrer has given us a record of the most notable incidents in which he has borne a part. The reader rises from his study of this book impressed with the thoroughness of Sir Joseph Fayrer's life-work, with the high ideal which he as a medical officer has ever sought to attain, with the feeling of how loyal he has been to the great profession of which he is proud to be a member, and how constant he has ever been in promoting the true dignity of the calling which he considers most noble. The story of his life is told in simple language and in a way which makes those who know the author almost feel that he is indeed speaking to them. In other words, the book is not merely a record of the man's doings, but also of the man himself—of his strong individuality.

The son and grandson of naval officers, Sir Joseph Fayrer in early days was attracted by the sea. His father, who retired from the navy with the rank of commander, was afterwards one of the pioneers of steam navigation and commanded the *Great Liverpool*, which was then the largest ocean-going steamer. At the age of 16 years young Fayrer was appointed a midshipman in the West Indian Mail Steam-packet Service and sailed under Captain Hart to the West Indies and South America, but in his nineteenth year, while at Bermuda during an epidemic of yellow fever, he became strongly impressed with the importance of the medical profession, seeing how highly it was valued and how great an influence its members exercised for good. In August, 1844, he started for England and became a pupil at the Charing-cross School of Medicine, where his chief friends were W. G. Hunter (now Sir William Guyer Hunter, M.D., K.C.M.G., Q.H.S.), subsequently Surgeon-General of the Bombay Army, and the late Professor Huxley. In July, 1847, having passed his examination at the Royal College of Surgeons of England, he was commissioned to H.M.S. *Victory* for service at Haslar Hospital, where one of his comrades was Andrew Clark, afterwards President of the Royal College of Physicians of London. In the month of October, 1847, having been allowed to resign his commission temporarily, he left England as physician to Lord Mount-Edgcumbe, and with him he travelled on the continent for a few years. While with the earl, in February, 1849, he received the degree of M.D. from the University of Rome, being the only graduate of the University who was not a Roman Catholic. It was at Rome that he had the good fortune to afford medical aid to one of Lady Malcolm's daughters, thereby securing the interest which subsequently obtained him his appointment

in India. Towards the end of the year 1849, through the interest of Lord Mount-Edgcumbe, he obtained a commission in the Ordnance Medical Department, then presided over by Sir John Webb, but after four months at Woolwich the service was reduced in numbers and then it was that, through the interest of Lady Malcolm, Sir R. Campbell, a Director of the Honourable East India Company, gave him an Indian appointment and he proceeded to Bengal as an assistant surgeon. On June 29th, 1850, he left Gravesend in the *Camperdown* for Calcutta, and he commenced his Indian service at Fort William on Oct. 9th, 1850. In April, 1852, he sailed for Rangoon as one of the medical officers forming the hospital staff of the Burmah Field Force and was present at the escalading of the Thilawa stockade. During the war he was literally field surgeon to the Burmese army. As a reward, in July, 1853, Lord Dalhousie wrote and offered him the Residency Surgeoncy at Lucknow, which he said he had reserved to bestow upon the assistant surgeon who rendered the most approved services during the war with Burmah. When he joined his appointment Colonel Sleeman was the Resident, and he duly instructed Fayrer in the ceremonial and etiquette which are deemed of such importance in a native court. His designation in his early days at Lucknow was "Residency Surgeon, Superintendent of the King's Hospital, and Postmaster"; he was also in charge of the Martiniere School and Superintendent of the Char Bagh, a large public garden. Sir William Sleeman was in due course succeeded by Outram, whose arrival was celebrated with great pomp. In September, 1854, Fayrer was appointed an honorary Assistant Resident, and thus had political combined with other duties.

It was at Lucknow, on Oct. 4th, 1855, that Fayrer married a daughter of Brigadier-General A. Spens, and it was about this time that Outram, charged with instructions from the Governor-General in Council, carried into effect the last important act of Lord Dalhousie's administration—the reorganisation of the Oudh Government, which necessitated the deposition of the King, and henceforward Oudh became a British province. Under the new *régime* Outram recommended that Fayrer should be made a Deputy Commissioner, but the Governor-General wrote to him suggesting that, as he had done so well in his profession, it would be a pity to give it up. In consequence he was appointed Civil Surgeon of Lucknow and Superintendent of Charitable Institutions. Part of his work at this time was to reorganise the postal arrangements and extend them over the whole province. Sir Joseph Fayrer relates many incidents connected with his professional life while at the court of Oudh—many of them are full of humour and all are well told.

There is much in this work which will please the sportsman, for Sir Joseph Fayrer relates tales of shooting expeditions in which all wild animals, from the lordly elephant to the humble snipe, formed a quarry. Many and varied also are his observations of animal and vegetable nature in the jungle and Terai, the contemplation of which evidently added a freshness and charm to his everyday life.

As Sir Joseph Fayrer is one of the survivors of the Lucknow garrison during the ever-memorable siege, the reader naturally turns to the story of those days and is not surprised to find that he has devoted more than 100 pages to the insurrection in Lucknow and Oudh and the siege of the Residency. Here every line is worth reading, for the descriptions are vivid and the excellent maps and plans enable the reader to follow with ease each detail and incident of those memorable days. Fayrer's work in those days as physician, hygienist, and soldier was indeed stupendous. He devotes but small space to the final act in the drama of the life of that great Anglo-Indian, Sir Henry Lawrence, for of this he has written elsewhere more fully, but he tells enough to enable his readers to follow the course of events on that saddest of the days which dawned for Lucknow's heroic defenders. The whole story of those days in Lucknow is both circumstantial and thrilling. Years after Sir Joseph Fayrer tells how he presented the aged survivors of his own garrison to the Prince of Wales, to whom also he pointed out the old positions and the ruins of his former home. Vivid also is the tale of the perilous march of the garrison to Cawnpore after the relief. His strong remarks on the subject of Havelock's deserved "V.C." are a vigorous testimony against the absurd regulations which at times prevent the decoration of brave men with the soldier's most coveted distinction.

In 1858 Fayrer returned to England and went to reside at Edinburgh with a view to take his M.D. degree. He relates that he was allowed a special examination just before returning to India to take up his appointment as Professor of Surgery in the Calcutta University. In the descriptions of his surgical work in Calcutta, of his labours as member of the Syndicate of the University and President of the Faculty of Medicine, as President of the Asiatic Society, and Trustee of the Indian Museum, and of his experimental work which led to the publication of his great work on the "Thanatophidia of India," there is much to interest and attract the reader.

Invested at an early age with the badge of the higher of the Indian Orders of Knighthood he rode with the Companions of the Order at the memorable Chapter when the Duke of Edinburgh was invested as a G.C.S.I. on the Calcutta maidan and at the Viceroy's request accompanied the Duke on his travels through the north-west of India—an opportunity which led to his appointment as physician-in-ordinary to His Royal Highness.

The year 1873 saw Fayrer appointed as a member of the Medical Board at the India Office under the presidency of Sir Ranald Martin, whom he afterwards succeeded, and brought him his election as a Fellow of the Royal College of Physicians of London, a circumstance which subsequently restricted his practice to that of a consulting physician, for etiquette henceforward forbade surgical work in which he had excelled in India and to which he was much attached.

About a hundred pages of the volume are devoted to incidents connected with the Prince of Wales's visit to India. The part that Fayrer played in that great and memorable journey through the Indian Empire is told with a becoming modesty, but leaves the reader impressed with the manner in which he prepared for his arduous and difficult duties and very sensible of the care with which he carried out the charge intrusted to him by the Queen. It was while at Dholpore in Rajputana that the Prince informed him that Her Majesty had telegraphed to the Viceroy saying that he was to be made a Knight Commander of the Star of India, and he afterwards received the accolade and the insignia from the Prince's hands at a Chapter held at Allahabad.

Of the later stages of his career in London and of the important work he carried out as President of the Medical Board and member of the Army Sanitary Committee the reader can obtain due knowledge. One of his most important acts was certainly the firm and consistent support which he gave during many years to the Army Medical School at Netley. Twice in bygone years was its existence threatened and twice was his strong hand put forth to stay the destroying mandate, Sir Joseph Fayrer going the length of privately addressing the Queen through Sir Henry Ponsonby and asking her to avert the danger. He also spoke strongly at a meeting of the Royal College of Physicians of London about the medical services and thereby helped forward the new warrants. On the many honours which have been accorded to Sir Joseph Fayrer by Her Majesty and by universities in this country and abroad we will not dwell; they

are, of course, noted in this volume which is the record of a long official life well spent.

Prefixed to the book is the best portrait of Sir Joseph Fayrer which we remember to have seen, his expression and attitude being faithfully reproduced. The illustrations of the book are excellent, among the most interesting being the pictures of his house at Lucknow before and after the siege. The binding and letter-press of the book add to it an additional charm.

Heart Disease in Childhood and Youth. By CHARLES W. CHAPMAN, M.D. Durh., M.R.C.P. Lond. With an introduction by Sir SAMUEL WILKS, Bart., M.D. Lond., F.R.S. London: The Medical Publishing Co., Limited. 1900. Pp. 98. Price 3*s.* 6*d.*

IN this small book Dr. Chapman has given a clear and interesting account of modern opinions with regard to heart disease in the young. He follows the views of Cheadle and Sturges as to the different clinical course, prognosis, and treatment of the disease in early life. He draws special attention to the frequency with which heart disease is overlooked in children owing to the ease with which compensation occurs and the consequent absence of symptoms, and quotes a number of clinical cases which bear this out. Dr. Chapman's directions with regard to the hygienic management of children who are suffering from heart disease is most sound and judicious. He protests against their being treated as having only a few years to live and strongly urges that where there is good compensation the boy should live an ordinary life, going to school and, under medical supervision, being allowed to take part in the less violent school games and sports. A large number of illustrative clinical records are given, as well as photographs and sphygmograms. Altogether the book forms an interesting and useful contribution to the literature on the diseases of early life.

A protest, however, must be entered against the practice of announcing books as accompanied by an "introduction" by some eminent man. The introduction by Sir Samuel Wilks in this book contains no information with regard to his own views but is merely a short testimonial.

The American Year-book of Medicine and Surgery. Under the general editorial charge of GEORGE M. GOULD, M.D. Medicine. London: Rebman, Limited. 1900. Pp. 656. Price 17*s.* (The two volumes, Medicine and Surgery, 30*s.*)

THE general scope of the American Year-book is so well known that no introductory remarks are needed from us. The excellent standard of the publication is well maintained in this volume and all the subjects are brought fully up to date. In a glance through the pages the reader is at once able to perceive the work which has recently been done by various observers in any particular disease. The plentiful but judicious use of bold type greatly adds to the use of the work for reference, and the wished-for information is soon found.

Dr. Alfred Stengel and Dr. D. L. Edsall (Philadelphia) are responsible for the section on "General Medicine." The article on Typhoid Fever is of great interest: we may especially note the remarks on Combined Typhoid and Malarial Infection, a subject which is now receiving a considerable amount of attention. Another sub-section well worthy of perusal is that on Congenital Lesions of the Throat.

The section on Pediatrics is edited by Dr. Louis Stair and Dr. Alfred Hand of Philadelphia. The subjects to which attention has been paid in greatest measure are those of hygiene, infant-feeding, and the disturbances of the digestive tract.

Dr. David Riesman of Philadelphia has put together the section on Pathology. He draws especial attention to Birch-Hirschfeld's valuable observations on primary pulmonary tuberculosis, enlarging on this writer's statement that "pulmonary tuberculosis in its first stage is, as a rule, a mucous membrane tuberculosis located in a medium-sized apical bronchus." The more recent discoveries in bacteriology are also duly chronicled and a large amount of attention is paid to toxins, antitoxins, and agglutination.

Dr. Archibald Church is the editor of the section on Nervous and Mental Diseases and gives a good summary of the work performed during the year 1899 in addition to the usual extracts collected from medical literature. Dr. Louis A. Duhring and Dr. Milton B. Hartzell of Philadelphia have collected the information on Cutaneous Diseases and Syphilis, while Dr. R. W. Wilcox of New York and Dr. A. A. Stevens of Philadelphia are responsible for the section on Materia Medica, Experimental Therapeutics, and Pharmacology. They remark that the trend of therapeutic investigation during last year was rather toward a working out of details and following out of theories prepared than in presenting new measures, and that praiseworthy attempts have been made in the direction of harmonising the results of laboratory work and bedside study. Dr. G. N. Stewart of Ohio has produced an interesting collection of the advances made in Physiology, while Dr. Wyatt Johnston of Montreal has collected some valuable statistics from writings on Legal Medicine. The section on Public Hygiene and Preventive Medicine is by Dr. S. W. Abbott of Boston, and the one on Physiologic Chemistry is by Dr. Walter Jones and Dr. Reid Hunt of Baltimore.

LIBRARY TABLE.

The Pasteurisation and Sterilisation of Milk. By ALBERT E. BELL, F.I.C., F.C.S. London: Rebman, Limited. Pp. 41. Price 1*s.* 6*d.*—This unpretentious little book is a reiteration of the well-worn arguments in favour of the pasteurisation and sterilisation of milk. Since milk is known to be a means of spreading disease there can be little doubt of the great advantages of a sterilised milk-supply, but as our only method adopted is that in which the milk is submitted to the action of heat it cannot be doubted that some important changes in the composition of the milk take place also in this process. The precise nature of these changes and their effect upon the dietetic value of milk are still wrapped in some mystery. The author describes several forms of apparatus both on a large and small scale which are well adapted for the sterilisation of milk and he details also the organisms which occur in milk and which give rise to disease. He might have extended his observations on the effect of sterilisation upon milk inasmuch as the subject has been somewhat widely discussed during the past year. One sentence which occurs on page 41 should have been a little more positive. It is stated that "it is therefore most probable that the milk sold in large towns which is a mixture of milk from numerous cows contains tubercle bacilli." Quite recently, it is added, the experiments and researches made by Dr. Obermüller established this fact beyond all doubt. If the author will refer to our columns he will find that the fact has been established again and again at times which can hardly be described as "quite recently." The book will be read by the lay reader with advantage since it points out the dangers arising from infected milk and the advantages of sterilised milk.

A Pocket-book for Chemists. By THOMAS BAYLEY, Assoc. R.C.Sc.I. Seventh edition, enlarged and revised. London: E. and F. N. Spon, Limited. 1900. Pp. 559. Price 5*s.*—We shall not be surprised if this book reaches many more editions than the present number, seeing that it is so useful. Indeed, to the chemical manufacturer, the metallurgist, the dyer, the distiller, the brewer, the sugar

refiner, the photographer, and the medical man in the quest of analytical data it is a *sine quâ non*. The present edition has been quite brought up to modern requirements. Although a pocket volume it contains an enormous number of data which must have entailed considerable work, while the task of editing and revising must have been no small one. We cordially congratulate the author not only on the excellent plan of arrangement but also upon the accuracy which characterises the pages of data and formulæ. This is no small compliment considering the great number of formulæ, figures, and mathematical data with which the pocket-book abounds. To the busy practical chemist the book is of greater value than a dictionary, for reference is easier and the subjects are limited to practical work.

A Text-book of Physiological Chemistry. By OLOF HAMMARSTEN. Authorised translation from the author's revised fourth German edition by JOHN A. MANDEL. Third edition. New York: John Wiley and Sons. London: Chapman and Hall. 1900. Pp. 628. Price 17*s*.—This work was reviewed in THE LANCET of March 18th, 1899, when the second edition was under consideration which was a translation of the third German edition and there are no essential changes either in plan or material in the present edition. But of course the subject has been brought completely into accord with the modern developments of science. The number of pages in the present edition, which is called "enlarged," is reduced by 80, which is due rather to altered paragraphing and arrangement of type than to the condensation of discussion. The translation is admirably done, and is clear and intelligible. The order in which the subjects are treated betokens also a systematic faculty. We still find no reference in the section on the Respiratory Processes to the elaborate work of the late (as we must now write) Dr. Marcet, F.R.S., although the work of German collaborateurs is freely cited. Hammarsten's original work has been frequently translated into other languages besides our own, of which several editions have appeared, a fact which is an indisputable argument in its favour as a book that is much sought after as an educational help. An admirable feature of the work is the copious references given in the foot-notes to original papers on some of the great physiological problems. The index, also, is very complete. The book may be recommended to the student commencing this subject, and besides, as a source of reference, to those who have completed their ordinary curriculum.

A Glossary of Botanic Terms. By BENJAMIN DAYDON JACKSON. London: Duckworth and Co. Philadelphia: J. B. Lippincott Company. 1900. Pp. 326. Price 6*s*.—Botanical science has accumulated such a vast number of technical terms, many of which are only occasionally met with, that a glossary of terms is really necessary to the right understanding of modern works on botany. The book under notice gives the derivation and accentuation of the words and in addition to the glossary contains an appendix giving a list of signs and abbreviations, a bibliography, and other supplementary matter. Bearing in mind the use of such a book it is a pity that a page of *errata* should have been necessary, and also that the list of additional words could not have been incorporated in the main list. These things will, no doubt, be put right in a second edition, but their existence in the first edition does not add to the convenience of the book, which, however, should prove of use in the reference library of any one interested in the science of botany.

Lehrbuch der Histologie und der Mikroskopischen Anatomie des Menschlichen Körpers. (*Text-book of the Histology and Microscopical Anatomy of the Human Body*.) Von Dr. Ladislaus Szymonowicz, ausserordentlichem Professor der Histologie und Embryologie an der Universität Lemberg. Lieferung III. Würzburg. 1900. London: Williams and Norgate. Preis M.3.—The third part of Dr. Szymonowicz's text-book includes about 60 pages of the text and 11 beautifully executed drawings in addition to some 50 figures scattered throughout the different pages of the work, in illustration of the thorough manner in which microscopical anatomy is taught at Lemberg. The parts of the body which are described and illustrated are the veins, the heart, the lymphatics, the thyroid, the suprarenal capsules and the coccygeal body. These are followed by a minute account of the digestive system from the mouth to the small intestine. The text is very clearly expressed, and the illustrations, mostly original, are most excellently drawn. We may at once say that Professor Szymonowicz's treatise will, when completed, be one of our most valuable works on human histology.

JOURNALS.

The *Veterinarian* for June exposes a singular dearth in its usual number of original clinical case notes. For this to be the case in a journal the strong point of which used always to be its clinical side makes it seem as if the veterinary practitioner was becoming very apathetic. It may be that, as the war in South Africa has removed a large number of rivals from England, he is too busy to jot down notes and write them up into clinical articles in his spare time. This month's number consists almost entirely of extracts from colonial or foreign sources. The first article is taken from the report of Mr. J. A. Gilruth, chief veterinary officer and bacteriologist to the New Zealand Government, and is headed "Tumour Formation in certain of the Domestic Animals." It is an interesting extract and is well illustrated. A summary of the same author's work on Actinomycosis, Parasitic Gastritis, Red-water, Milk Fever, Acute Congestion of the Kidneys, and other diseases of cattle and sheep is also given. A valuable editorial note summarises the recent work of Professor van Gehuchten and M. Nélis, wherein these writers assert that by a microscopical examination of one of the cerebro-spinal ganglia of a supected animal the diagnosis of rabies can be confirmed or refuted in a few hours instead of waiting until the result of inoculation becomes known. The annual report of the Principal of the Royal Veterinary College is concluded, this instalment including the Summary of the Researches made upon South African Horse Sickness and the Curability of Glanders. Mr. John Dollar contributes translations from Professor Cadiot's lectures on Clinical Cases and there is also an article on Tuberculosis Antitoxins by E. Merck of Darmstadt. Scientific extracts under the heading of the Month's Progress and reviews of books conclude the number.

The *Veterinary Journal* for June is even worse off than its contemporary the *Veterinarian* for clinical articles. The June number is almost entirely made up of reports of the proceedings of the various veterinary societies, the account of the quarterly meeting of the Council of the Royal College of Veterinary Surgeons, extracts from foreign or colonial sources, and reviews of books. Amongst the first-named are papers on Influenza, Anæsthetics, and Joint Evil. Dr. Bradford's paper on Rabies is concluded and a list of the successful candidates at the recent professional examinations in Edinburgh is given. As a great deal of this matter has already been published in the weekly organ of the profession it seems a pity that it should be utilised to fill up the monthly journals, particularly as the weekly paper is well known to have a wide circulation. More original work would be better appreciated.

TEIGNMOUTH HOSPITAL.—The fête which was recently held in aid of the funds of the Teignmouth Hospital resulted in the sum of £250 being raised for the institution.

THE LANCET.

LONDON: SATURDAY, JULY 7, 1900.

MR. BURDETT-COUTTS'S letter to the *Times* of June 27th was terrible reading. No wonder it stirred the feelings of the British people and caused the most anxious inquiries to be made in every direction at all calculated to elicit information on the subject—and no wonder also that much of the correspondence which ensued in the press owed its inspiration to the heart rather than to the head. Despite all that human foresight and ingenuity can devise wounds and privation are inseparable from war. Some writers seem to have forgotten this. The real terror of Mr. BURDETT-COUTTS'S letter lay not in his statement that horrors had occurred but in his deliberate allegation that they had occurred from causes which might have been foreseen and which were wholly preventable. The case is one of national concern, one which touches the national sense of honour and humanity, and should be kept altogether above any mere party interest. However painful the subject may be, heated and impassioned discussion is quite out of place on such an occasion. The aim and object of everybody should be to elicit the truth, and the whole truth, in a spirit of independence, and in that spirit we propose to discuss the subject to the best of our ability. It goes without saying that everything which affects the honour and reputation of the medical profession deeply concerns us, and we fearlessly accept the position that the medical service in South Africa is to be held accountable for the trust committed to it. If it can be shown that it was within the power of the medical service to have prevented the terrible scenes described by Mr. BURDETT-COUTTS, or if the things which he alleges to have happened appear on investigation to be attributable to any culpable neglect on its part, then a well-deserved obloquy and punishment should fall upon the culprits. On the other hand, unless war is to be rendered impossible it is surely conceivable that exceptional conditions arising out of the circumstances of a campaign may occur which are practically beyond human control, or which at any rate in the judgment of those in supreme command are of so imperative a nature as to render the vicarious suffering and sacrifice of some unavoidable in order to secure the safety of the remainder or the achievement of strategical success. Decision in such momentous situations falls, and rightly falls, within the province of the Commander-in-Chief and that of his staff. The duty of the medical authorities is to represent the facts and to advise as to what should be done; there their official responsibility ends.

The picture presented to us by Mr. BURDETT-COUTTS of the almost indescribably bad condition of the sufferers from typhoid fever closely packed together in bell tents and marquees—and we purposely select this as the most graphic, tangible, precise and striking instance of alleged neglect—was such as to lead the least sensitive to exclaim: Are the facts correctly stated, and, if so, were these horrors unavoidable under the circumstances and exceptional, or were they more or less typical of the general condition of the medical arrangements? Again, if these things were unavoidable how long did such a state continue and was it remedied with the least practicable delay or not? Such were the questions we asked ourselves at the moment, accepting Mr. BURDETT-COUTTS'S statements as substantially true in the meantime. If neglect can be proved the offenders must be punished. But the fullest inquiry should precede punishment and the military exigencies must not be lost sight of. We rose from a perusal of the debate in the House of Commons with a well-grounded feeling of assurance that the Army Medical Service will turn out after an honest and unbiased investigation to have been both powerless and blameless in this matter. We confine ourselves to the occurrences at Bloemfontein and Kroonstadt, putting aside for the present all other allegations emanating from any places elsewhere. And it seems to us quite irrelevant to the subject to inquire whether there was any want of physicians and nurses, because where the most elementary necessaries for the accommodation, feeding, and treatment of the sick were absent no amount of physicians and nurses could, practically speaking, have been of any avail. Again, while we thoroughly accept as indisputably true all that Sir WILLIAM MAC CORMAC, Mr. TREVES, and others have said about the condition of the hospitals, we may put much of their evidence aside as irrelevant to the present issue, because the results of their personal inspections were only applicable to the times and places at which they were made. We are quite content to accept, for the sake of argument, Mr. BURDETT-COUTTS'S description of what he saw. We only ask that judgment on the whole question may be suspended until more is known.

No fair-minded or reasonable person can hesitate, after reading Mr. WYNDHAM'S speech, to arrive at the conclusion that the provisions made in this country for the hospitals of the army in South Africa were most carefully considered, while the transit of all supplies to the Cape was thoroughly well arranged. We see no reason for altering the opinion which we expressed months ago that everything had been provided for the medical service on a more liberal scale than had ever been attempted before. It is a ridiculous assumption that the medical authorities of the War Office were not thoroughly alive to the fact that there would be a large amount of enteric fever. The experience of every modern campaign on record furnished the information. They could not, of course, foresee the occurrence of the sieges at Ladysmith and elsewhere, or the capture of the waterworks by the Boers at Bloemfontein for example; nor could anyone have foretold the incidence of disease in the form of big outbreaks at any given time or place; but the War Office took care to provide for the occurrence of a large aggregate amount of enteric fever. We can only suppose that Sir WALTER FOSTER'S speech in the House of Commons with reference to the sending out of a small sanitary commission was prompted by political motives, for the efforts of such a commission would, it seems to us, have been completely useless unless the commissioners

had explored, say, Kroonstadt and Bloemfontein some weeks before Lord ROBERTS's arrival. Would not the commissioners have been impeded in their work by the Boers? Such a commission would have been valueless, and its proposal shows that Sir WALTER FOSTER did not know where to look for a clue to the difficulty. Transport is *the* difficulty in every war and it has been pre-eminently so in this one. At the beginning of the campaign the British forces were not only outnumbered, but their plans were frustrated by the mobility of their foes. When Lord ROBERTS assumed command he had a larger and much more mobile force at his back. A number of very rapid and sweeping marches were made, by which the army altogether outmarched its supplies and had to depend upon a single and precarious line of rail. This was frequently interrupted, while his convoys were also captured and his stores raided by the enemy. Lord ROBERTS either might not have gone to Bloemfontein and Pretoria at all or might have doubled the carrying capacity of his railway before doing so. We cannot suppose that either alternative would have been deemed by anyone a satisfactory proceeding on his part. Still, the matter rested with him and with his chief of the staff, who was supposed to have the army transport under his special charge. Whether Mr. BURDETT-COUTTS was right or wrong in his contention that if the railway trucks had been properly utilised all would have been well is a matter which he must settle with the military authorities. Lord KITCHENER is probably the only officer in a position to give full and complete information on the point. It is clear, however, from the extracts which Mr. WYNDHAM read from the diary of the Principal Medical Officer at Cape Town that Surgeon-General W. D. WILSON was thoroughly alive to the importance of getting his general hospitals to Bloemfontein, but was unable to do so on account of the great pressure of traffic.

Mr. BURDETT-COUTTS will pardon us for remarking that he is not the sole and exclusive possessor of feelings of humanity or the only person animated with a keen sense of responsibility in regard to the requirements of the sick. Let it be clearly understood that we fully credit him with having been shocked and distressed by what he saw and with having been actuated by a conscientious sense of duty in the course he has taken; and we most sincerely hope that it will have the effect of leading to the fullest inquiry and be productive of the greatest benefit to the sick and wounded soldier. But we do find fault with him in that he did not, whilst on the spot and enjoying peculiar advantages in the matter of introductions, make a representation to Lord ROBERTS or apply for advice and information to the Central Red Cross Society which has large funds at its disposal and agents and depôts at the seat of war. He should have done either or both of these things before having recourse to the publication of his letter.

WE have recently[1] published a communication by Dr. PAVY on Differentiation in Diabetes. It has long been recognised by physicians that one of the most striking features belonging to diabetes is its varied manifestations in different cases; also that correct prognosis and treatment mainly depend upon an accurate knowledge of the phenomena, clinical and chemical, by which the forms met with in actual practice are characterised. In Dr. PAVY'S article two classes of cases are most ably differentiated, and a study of his remarks will enable practitioners more fully to understand the principles upon which cases of diabetes may be treated and the facts upon which a prognosis may be founded.

As is well known there is a class of case in which the eliminated sugar is solely derived from the food. It constitutes what has been appropriately named the "alimentary" form of diabetes. Dr. PAVY'S observations are chiefly from a practical point of view and therefore he does not enter into a theoretical discussion. He states that in this variety of the disease the carbohydrate matter of the food fails to be dealt with in the system in such a way as to be placed in a proper position for utilisation. As a consequence it becomes discoverable as sugar in the circulation and is thence discharged as waste material with the urine. It is important to remember that in this "alimentary" form of diabetes the abnormal state observed in connexion with the urine consists purely and simply of the presence of dextrose. As a result when the urine is examined quantitatively by cupric oxide reduction and the polarimeter the figures given by the two methods stand in accord or sufficiently so for the difference noted to fall within the limits of error of observation. As a further point in connexion with this kind of urine it is found that when the dextrose has been removed by fermentation with yeast and Fehling's solution no longer gives any reaction the polarimeter also fails to afford any evidence of either right-handed or left-handed optical activity. Simply placing the urine aside in a warm situation for 24 hours with some broken-up German yeast ordinarily suffices for the complete removal of the dextrose. One other point has to be taken note of for a full understanding of the chemical phenomena in connexion with urine in diabetes—namely, that the urine belonging to the "alimentary" form of the disease does not possess the abnormality which leads to the production of a coloured reaction with ferric chloride. Turning now to the second class of case which Dr. PAVY describes we find that the dextrose in the urine, instead of being derived solely from the carbohydrate matter of the food, is also present as a consequence of abnormal proteid disintegration. This is a much more serious matter. By faulty metabolism a tissue breaking-down occurs, attended with the production of sugar associated with other abnormal degradation products. Through this proteid disintegration consequences arise which do not follow on the simple faulty assimilation of carbohydrate matter. Dr. PAVY points out that pernicious results may ensue from the sugar that reaches the system from mal-assimilated carbohydrate matter, but further and graver effects arise from the condition attended with the production of sugar from faulty degradation metabolism. It is to the presence of one or more of these products of disintegration accompanying the sugar that diabetic coma is attributable. Thus a form of danger is engendered which does not attend the abnormal existence of the sugar alone. The term "grave" has usually been adopted in defining this class of case.

[1] THE LANCET, June 16th, 1900, p. 1706, et seq.

After reading Dr. PAVY'S description, however, we agree with him that the conception to which that term gives rise does not felicitously fit in with what is desirable for general use. The term he proposes—"composite"—more accurately meets the circumstances in relation to the existing condition and also stands more appropriately in contrast with the "alimentary" or simple form of the complaint. We think, therefore, that the expression "composite" should be accepted to distinguish that form of diabetes in which evidence is presented of tissue disintegration constituting a partial source of the dextrose eliminated from that in which the dextrose is derived solely from the food. In brief the "composite" form of the disease is characterised by the presence in the urine of sugar, together with the products of faulty tissue breaking-down. Dr. PAVY then goes on to explain what are the series of abnormal products discoverable in the urine in the "composite" form of diabetes. The chain in its successive stages of descent runs as follows: β-oxybutyric acid, diacetic acid, and acetone. It is known that traces of acetone may be met with in normal urine, but the presence of the other principles is usually regarded as pathological. They are indicative of abnormal proteid destruction and their amount may be taken as furnishing a measure of the extent of its occurrence. This is of course an important point, as we are thus enabled to read off in a given case the magnitude of the morbid action in play in the direction in question. Dr. PAVY proceeds to show the manner in which the estimation can be effected by methods adapted for clinical application. We do not propose to dwell in detail on these measures, but we may mention it is the levo-rotatory β-oxybutyric acid that is found and consequently this action takes away from the dextro-rotatory effect produced by dextrose, and thus the results given by estimation with cupric oxide reduction and the polarimeter are not in accord as they are with the "alimentary" form of diabetes; in the "composite" variety a reading is given it may be much below that which would have resulted if the dextrose had stood alone, and consequently correspondingly below the figures given by cupric oxide reduction. By the difference in the result noticed between this test and that afforded by the polarimeter an indication is given of the extent to which abnormal proteid disintegration is occurring. Supplementary information is obtainable by fermenting the dextrose away and then examining with the polarimeter. The optical activity of the oxybutyric acid is then allowed to come into unopposed play and a left-handed rotatory effect is shown, standing proportionate to the amount that is present. Finally, the presence of diacetic acid may be demonstrated by the ferric chloride test.

We have not space to comment further on Dr. PAVY'S interesting and instructive article. We have laid especial stress upon the chemical phenomena of the urine because they are less understood and appreciated than the clinical manifestations of the disease, but are equally important in the treatment. It is true that the examination has to be made by an expert, but at the present time no difficulty need be experienced in having the required analysis carried out at the numerous laboratories established for the purpose. It is obvious from what we have said above that it is of supreme importance that the practitioner should be able to decide as to which variety of the disease he has to deal with in any particular case. If it should prove to be of the "alimentary" form the treatment is simple and the prognosis favourable; should it prove, however, to be of the "composite" form the treatment is more complicated and severe whilst the prognosis is much less favourable. In a recent leading article[2] we drew attention to a paper published in our columns by Dr. SAUNDBY, and Dr. PAVY'S remarks are closely in accord with his. We need not, therefore, dwell again on the subject. We feel, however, that these two writers by their recent communications deserve the thanks of practitioners for bringing before their notice the most modern views as regards the prognosis and treatment of a disease so prevalent as diabetes.

THE Bill to amend the Companies Act, the second reading of which was carried through the House of Commons on June 26th, contains two clauses which, as the Minister in charge of the Bill remarked, are not germane to it. This is doubtless a truism, but whether the clauses be germane or not they are of the utmost importance to the medical profession. The object of the new Bill is, we take it, to render impossible for the future such instances of fraudulent trading under the guise of a company as have of late years shocked the public mind. Parliamentary Bills as a rule say what shall be done and not what shall not be done, and until lately it would have been considered as likely that medical practice should be carried on by a company as that the revision of the Nautical Almanac should be dealt with in the same manner. But the idea has been seriously acted on and various recent instances have occurred of companies, with more or less medical names implying medical function and practice and composed of persons with no real medical qualifications, pretending to practise medicine and to perform duties only legally to be done by practitioners on the Medical Register. Therefore, although the clauses dealing with medical and dental practice by companies may not be strictly germane, yet we contend that in a Bill such as the present the subject may very well be dealt with.

Nothing can be more clear from the various Acts and Charters regulating medical practice than that the Legislature intends that qualification to practise medicine in any or all of its branches is to be a personal matter. It is to apply to individuals and not to companies. There is something especially unsatisfactory in the idea of companies undertaking to carry on the profession and practice of medicine, and it has been recognised on all hands that such practices should be rendered impossible. The only question was as to the best way in which to stop this abuse—whether by a separate Bill of one clause, as in the Bill of the Lord Chancellor last year, or by a clause in the Companies Bill as recommended by a strong committee of the House of Lords. Happily, the latter course has been pursued by the Government, and in the Companies Bill of this session, with the names of Mr. RITCHIE and the Attorney-General

[2] THE LANCET, June 2nd, 1900, p. 1595.

and the Solicitor-General on the back of it, and ordered to be printed on Feb. 12th, we find the following section:—

3. It shall be unlawful for a company to carry on the profession or business of a physician, surgeon, dentist, or midwife, and if any company contravenes this enactment it shall be liable, on summary conviction, to a fine not exceeding *five pounds* for every day during which the contravention happens.

We hope to see the Bill with this section included safely through Parliament during the present session. It is true that the medical profession, which is well informed as to the dangerous and audacious attempts by companies to practise medicine, was a little shocked when the President of the Board of Trade on the second reading of the Bill in the House on June 26th suggested, as we have already mentioned, that this section and another with reference to pharmacy might be left out of this Bill as being, though good in themselves, not really germane to it. This was a most disappointing line for Mr. RITCHIE to take at this advanced period of the session in regard to so admirable a part of his own Bill. We cannot doubt that he will reconsider this position and abandon it. He will admit that the chances of getting any such clause through as a separate measure at this late period of the session and after the passing of a Bill dealing generally with the abuses of the Companies Acts will be very slight. Fortunately we have his own authority for approving the principle of Section 3. He is the chief sponsor for the Bill, and in the debate on the second reading he admitted frankly that the amendment of the law which the section provides would be a beneficial alteration. His real object must be to make "companies" respected and to restrict their undertakings within limits that will make them safe and beneficial to the public. We do not gather that he has any strong objection to the clause remaining in the Bill. He said that the Standing Committee to which it has been referred must decide whether it should be proceeded with or struck out and relegated to some other Bill at some other time, but we are glad to learn as we write that the Committee has voted in favour of retaining the section. It would be a mere academic waste of time for the Government after this action of the Committee to argue further for leaving out the clause, the more so as, if we are rightly informed, Mr. RITCHIE has promised its promoters to urge the Lord Chancellor to re-introduce it as a separate measure if it be dropped out of the Bill. Mr. RITCHIE has already left this question practically to the Committee, and though its decision is against him it is only formally so. The decision is against him only in the sense of method and time and not in that of principle. It will gratify not only the General Medical Council and the medical profession, but all who have the reputation of companies at heart, to know that the principle involved in Section 3 has the approval of Mr. RITCHIE and the legal members of the Government and has found a place in the Companies Bill, which is likely to be one of the few measures of a memorable session dealing with domestic and peaceful questions. We venture to hope that he will cheerfully accept the vote of the Committee and give Section 3 the same Government help which he gives to the other portions of the Bill.

Annotations.

"Ne quid nimis."

THE NEW UNIVERSITY OF LONDON.

THE statutes and regulations made for the new University of London by the Commissioners appointed under the University of London Act of 1898 were passed in the House of Commons without opposition on Friday, June 29th. On July 2nd the foundation-stone of a new hall for the teaching of Economics and Political Science, which is a new faculty included in the University by the Commissioners, was laid by the Bishop of London in Clare Market almost on the line of the projected street from Holborn to the Strand. The site has been given by the London County Council, who will also contribute £2500 a year towards the expense of carrying on the work of the school, while Mr. Passmore Edwards has vested the sum of £10,000 in three trustees for the erection of the building. A new start has thus early been made for the future education of the metropolis. We presume that the different bodies interested will soon begin to elect a Senate and that the constitution of the three standing committees—viz., the Academic Council, the Council for External Students, and the Board to Promote the Extension of University Teaching, will at once follow. The members of Convocation and the teachers of the University in its eight faculties of Theology, Arts, Laws, Music, Medicine, Science, Engineering, and Economics and Political Science, are qualified as members of the University by the fact that the statutes are now in force. It is most important to the medical students of London that the Senate of the new University should quickly come into existence, in order that arrangements may be made with the Royal College of Physicians of London and the Royal College of Surgeons of England, or either of them, to conduct jointly with the Senate examinations in such portions of the subjects included in the course of study for a medical degree as may be agreed upon. It is now 12 years since Lord Selborne's Commission was appointed for the hearing of the evidence for and against the formation of a Teaching University in London and to report thereon. The granting of medical degrees by the two Royal Colleges had been discussed by a joint committee and the movement for promoting a Teaching University had been thoroughly considered for some years before the appointment of the Royal Commission. We are naturally anxious that organisation of the new University should not be unduly delayed, for the medical profession has long waited for reform.

THE "LIGHT TREATMENT."

MR. MALCOLM MORRIS has had under treatment by the Finsen electric-light method for more than two months several exceptionally severe cases of lupus vulgaris, and on Saturday afternoon last, June 30th, was able to give a very successful demonstration of the method to a number of medical men interested in the new departure. The premises which Mr. Morris has secured for the purpose of carrying out the "light treatment" are situated at 1A, Berkeley-gardens, Campden-hill, and are fitted up with every requisite for applying the new method. The particular apparatus used at 1A, Berkeley-gardens was procured by Mr. Morris from Copenhagen and has been in this country for nearly two years, but circumstances have prevented the apparatus being put into systematic use until some months ago. The apparatus required for the treatment by means of artificial light consists of three portions. First, a powerful electric

arc lamp is needed of from 55 to 75 ampères current; secondly, means must be provided for cooling the light; and, thirdly, it is essential that the operators should be able readily to concentrate the light in a suitable manner. The electric arc lamp is employed because it is found that its light is not only rich in chemical rays but is also less endowed with heat rays than ordinary sunlight. Further, in this country it is not possible to depend on a regular supply of sunlight which may, however, when available, be substituted for electric light with some necessary variation in the apparatus. For purposes of treatment the light is too hot and it is therefore passed through a form of telescope fitted with lenses of crystal and with distilled water for the purpose of absorbing the heat rays. Jackets of cold water are also so arranged that any chance of complications from the action of heat is avoided. Inasmuch as only a small portion of the diseased surface can be treated at one sitting provision is made for concentrating the light on a small spot a little larger than a florin. To those watching this process carried out it seemed that the attendants manipulated a patient with a view rather of bringing the part to be treated into focus than of focussing the light itself on to the desired place. Though naturally pleased with the favourable course taken in the cases of lupus vulgaris submitted to this treatment Mr. Morris very clearly pointed out to those present that the whole subject must be considered in a tentative way only and they must not allow themselves to make exaggerated statements about curing lupus, though of course the procedure was very satisfactory in many ways. It could be fairly said from the cases demonstrated by Mr. Morris that the method was painless, that no anæsthetic was required, and that there was nothing in it to frighten or repel a patient. Put very briefly a medical man could safely assert that given a powerful electric arc light, with suitable telescopes fixed at the right distance so as to concentrate the light properly cooled on to the patient's skin as he lies on a couch (if the situation of the lupus was convenient for focussing), the results would be in a large proportion of cases exceedingly satisfactory. The drawbacks are that the treatment is a tedious operation, the patient requiring very long and frequent exposure to the light, and that the longer the treatment the less power the light has of piercing the tissues in any particular case. In fact, there seem to be three factors specially detrimental to the success of this method: scar tissue, blood, and pigmentation. Mr. Morris does not appear to accept the theory that the chemical rays act in a remedial manner entirely by their bactericidal power, but space does not permit of discussing this point. The curative agency of these chemical rays does not seem to be confined to lupus vulgaris, for Mr. Morris showed a case of lupus erythematosus in which great improvement had resulted, and he also exhibited a typical case of rodent ulcer in which the hardness had disappeared, leaving only a superficial healing ulcer. The success of the demonstration was added to by some interesting remarks from Dr. A. Barry Blacker and Dr. F. Harrison Low. Mr. Morris was helped by Mr. S. E. Dore, his clinical assistant at St. Mary's Hospital, in carrying out the method of treatment.

SEPTIC SORE-THROAT AND INFECTED MILK.

DR. J. KING WARRY, medical officer of health of Hackney, has forwarded to us a copy of a report which he laid before the Health Committee on June 7th. The report deals with an outbreak of sore-throat which occurred in his district in April and also during a part of May. The disease was of a septic character and appeared to be connected with one particular milk-supply which in the report is designated as X. An analysis of 10 cases showed that in every case there was tonsillitis. In two cases there was also superficial ulceration. In every case there was cervical adenitis and in one case this went on to suppuration. The temperature was raised and the rise persisted for as long as a fortnight after the tonsillitis had disappeared. The temperature was of an intermittent type with profuse sweating. In one case acute septicæmia with fatal pneumonia supervened. In two cases acute nephritis with hæmaturia came on about a week after the commencement of the attack. In one case purpura hæmorrhagica occurred. Dr. Warry sent out a circular to every medical man in the district asking whether he had met with such cases as those of which the symptoms are detailed above and if so whether the milk-supply to the affected patients was from a common source. A bacteriological examination of suspected samples was carried out at the Jenner Institute, but no light was thrown on the matter. The circular resulted in providing details of 151 cases occurring in 88 households, all, with very few exceptions, being in Upper Clapton and Stamford Hill. Of these 138 cases occurred in 75 households, all of which were supplied with milk by X. Dr. Warry inquired of X from whom he got his milk, but X declined to say, being within his legal rights in so doing. "In some way," concludes Dr. Warry, "the milk supplied by X was the cause of the septic sore-throat disease."

THE EAST SUFFOLK HOSPITAL.

AT the anniversary Court of Governors of the East Suffolk Hospital, which was held on June 27th, a most important resolution was passed by the narrow majority of one which in future may have very serious results for the honorary medical staff. Hitherto the honorary medical staff have been elected for life and the elective body has consisted of the governors, or rather of some 400 members of the general body of governors. By the new rule members of the medical staff were to be elected for only ten years with the option of re-election at the end of the first ten years for a like period, and in addition the election was to be taken out of the hands of the 400 governors and transferred to the members of the board of management, who number 80. The motion was put by the Rev. T. M. Morris, who said that he spoke as the representative of the late board of management. Dr. W. A. Elliston, in opposing the proposed alteration, said that if carried it would cause a great deal of friction. Besides this the proposal did not come from the whole 80 members of the board of management, but only from the 12 members of it who were elected annually as a weekly board. The proposed new rule would simply put the medical staff in the position of being practically servants to the board of management. Personally he thought that there should be an age-limit, and for his own part he should be quite ready to retire at the usual retiring age—namely, 60 years. The proposal to disfranchise the governors in favour of the board of management simply meant the curtailing of the privileges of the governors and that would be disastrous for the funds of the hospital. The medical staff had quite made up their minds on the matter. Dr. R. K. Casley, in endorsing Dr. Elliston's views, said that a medical man's judgment was better at the end of ten years than when first elected. Some people thought that a change of clergyman at the end of ten years, or even of three years, was desirable. A hospital existed for the benefit of the patients and not as a dumping-ground for various young medical men. Eventually the proposal was carried by 19 votes to 18. The chairman then put to the meeting certain alterations which the rule just carried entailed, among others one which would make the whole of the medical staff members of the elective body, but eventually the matter was left over to be decided at a future meeting of governors. It must be remembered that the essence of a hospital consists of three things—money, patients, and

medical men. The last two are interdependent, and without either a hospital is non-existent. But although a hospital cannot get on without funds and subscribers it probably could get on without a lay board of management, and this is a fact which many boards of management seem to forget.

THE POSITION AT THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

As a result of the statement which has been issued to the governors by the medical and surgical staff of the National Hospital for the Paralysed and Epileptic we understand that a full inquiry will be instituted without delay. We have received a letter from the medical committee conveying their desire to settle the questions at issue between themselves and the board of management without appeal to the public. Under these circumstances we refrain from publishing either the statements of the staff or the rejoinder made by the board, and content ourselves at this juncture with saying that we trust that under no circumstances will the staff forego their just demand for representation on the governing body of the institution which owes its public utility to their efforts.

THE THIRTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

THE programme of fêtes which we published in our issue of June 23rd, p. 1821, has been slightly modified owing to the wish expressed by the President of the French Republic that he should close the Congress. The programme will therefore now run as follows. On August 2nd Dr. Lannelongue, the President of the Council, will give an evening fête in the name of the Government of the Republic. On August 3rd members of the Congress will be invited to an evening fête by the President of the Congress. On August 5th the fête given by the Bureau and Organising Committee of the Congress will be held in the Palais du Senat and the gardens of the Luxemburg. On August 7th the municipal council will hold its fête in the Hôtel de Ville. And, finally, on August 9th the President of the Republic will give his reception in the Elysée.

EXEMPTION OF PARALYSED LIMBS FROM THE SYPHILITIC EXANTHEM.

AT the meeting of the Société Médicale des Hôpitaux of Paris on June 15th M. Danlos related the following case. A man, aged 23 years, contracted syphilis. Six weeks after the appearance of the chancre a papular eruption appeared on the trunk, which took about three weeks to become generalised. Then the patient entered hospital with a confluent papulo-acneiform eruption which was very abundant on the trunk and less marked on the arms and left leg. The face was only slightly affected. The right lower limb was completely free from the eruption. On the right buttock and right side of the abdomen the lesions were numerous, but below the groin and the gluteo-femoral fold there was not one. In infancy the patient had suffered from infantile paralysis and the development of the right lower limb had been greatly checked. It was eight centimetres less in length than the left. The knee was semi-flexed and the foot was in a condition of equino-varus. All the tissues of the limb were decidedly atrophied except the skin which appeared to be normal. The temperature was lower on the right than on the left side. When the surrounding temperature fell the limb readily became purple. In spite of this it was, according to the patient, always moist. When the patient stood for a short time it became manifestly redder than the sound limb. The immunity from the eruption evidently depended on the atrophic condition of the limb. Similar cases have been recorded. In 1896 M. Jolly brought an almost exactly similar case before the society. Dr. Boulogne published a case in his *Thèse de Lille*, 1897, which differed in the fact that the paralysis was infantile spasmodic hemiplegia, and another in which the eruption was not the syphilitic exanthem but tuberculo-ulcerative syphilides, lesions which, however, are usually localised. Immunity of paralysed limbs to specific eruptions is not constant. M. Danlos observed in a man, aged 61 years, the subject of old hemiplegia, that the secondary syphilitic eruption was a little more abundant on the paralysed side. In the discussion which followed M. Merklen referred to a case of small-pox in a child the subject of infantile paralysis in which the pustules did not develop on the atrophied limb, and also to a case of psoriasis in which a limb, atrophied from infantile paralysis was exempt from the eruption. As to the explanation of such cases, nervous influence, alteration in the structure of the skin, defective circulation, and lowering of temperature may all be invoked, but definite proof as to the cause is wanting.

POST-GRADUATE CLINICAL STUDY IN THE METROPOLIS.

THE endeavour of the metropolitan schools of medicine to supply some sort of post-graduate teaching in London has proved far more successful than was at first anticipated. It was felt that the patients had already reached the limit of their endurance in the way of examination and the teachers the limit of their endurance in the way of teaching; for this reason it was decided to admit qualified medical men to the ordinary clinical instruction and clinical advantages of the medical schools, rather than to organise an independent post-graduate course. In this way it has been possible to throw open the best clinical material of the metropolis by issuing tickets at an almost nominal fee conferring the right to attend the practice of all departments of nine of the large metropolitan hospitals. Not a few of those who have come for a flying visit from Canada and the United States, after testing the scheme for a period of three months or more, have thought it worth while to stay a year or so as ordinary students to obtain the diploma of the Conjoint Board. Detailed information and prospectus may be obtained from the honorary secretary, West Wing, Examination Hall, Victoria-embankment, W.C., by letter or by interview between the hours of 12.30 P.M. and 3 P.M. daily, excepting Saturdays.

THE PLAGUE IN SAN FRANCISCO.

SOME two months ago rumours were current that plague had broken out in the Chinese quarter of San Francisco and reports which from time to time came to hand from that city, although vague, conveyed the impression that the true situation was being concealed and that the disease prevailed much more extensively than was generally supposed. Owing to this belief a feeling of dread sprung up throughout the United States that the plague had indeed gained a foothold in San Francisco and the fear was freely expressed that unless the most stringent measures were taken the pestilence, as in Australia, might be disseminated along the Pacific coast. In order to ascertain the exact position of affairs and to relieve the minds of the American public the *New York Herald* induced Dr. George F. Shrady of New York to proceed to San Francisco to make a careful inquiry into the matter. Dr. Shrady, after a stay of a week in San Francisco, during which time he visited every section of Chinatown under the escort of the police and health authorities, and after assisting in a necropsy on the body of a Chinaman suspected of dying from plague, came to the conclusion that, while there could be no doubt that the malady was, and had been, present in a

sporadic form, the scare was absolutely unwarranted, and that to all intents and purposes all fear of a widespread epidemic was ridiculous and unfounded. With regard to the condition of Chinatown and the duty of the San Francisco health authorities Dr. Shrady has this to say: "It matters not what money it may cost or what labour may be involved, the Board of Health of San Francisco has upon its shoulders a solemn duty which it must perform. The excitement created by the plague has called to the attention of the authorities the outrageously unhealthy state of Chinatown. Neither the people of San Francisco nor the authorities who represent them can afford to wait. Chinatown is known throughout the world as one of the filthiest quarters in existence, and San Francisco will not be relieved from the suspicion of other cities and States until it has removed this plague spot." It would therefore appear that the alarm caused by the occurrence of plague in San Francisco will really prove to be a blessing in disguise. Unsavoury Chinatown will doubtless be thoroughly cleansed and a district which has always been a menace to the whole city will be placed in a proper sanitary condition.

BARKER ANATOMICAL PRIZE.

STUDENTS who are expert dissectors will be interested in the announcement that the Barker Anatomical Prize of £21 is offered for competition and is open to any student whose name is on the anatomical class-list of any school in the United Kingdom. The subject appointed is a dissection of the fifth nerve, especially with reference to the Gasserian ganglion. The preparations must be sent to the Curator of the Museum, Royal College of Surgeons in Ireland, Dublin, before March 31st, 1901, each being marked with a fictitious signature and accompanied by a sealed envelope bearing outside the same signature and containing the competitor's name, together with a declaration that the work has been carried out by himself. The printed form necessary for the declaration can be obtained from the Curator. The cost and risks of transport must be borne by the student.

THE CLOSING OF PUBLIC ELEMENTARY SCHOOLS.

THE procedure to be adopted in order to enforce the closing of public elementary schools is so simple and can so speedily be brought into action that it is surprising to find not only members but even clerks of School Boards who appear to be quite unacquainted with the precise requirements of the Education Code. An instance in point reaches us from a district in South Wales where measles is now epidemic. The head-master of the Board school found his attendance had fallen from 97 pupils to 17 and he appeared before the School Board armed with an "order" from the local medical man to close the school. The Board was about to pass a motion to close when their clerk stated that such a motion was quite unnecessary but an "order" must be obtained from the medical officer of health of the district, whereupon the head-master and the clerk were deputed to wait upon this official who without demur gave the required document. Article 88 of the Education Code reads:—

"The managers must at once comply with any notice of the sanitary authority of the district in which the school is situated, or any two members thereof, acting on the advice of the medical officer of health, requiring them for a specified time, with a view to preventing the spread of disease, or any danger to health likely to arise from the condition of the school, either to close the school or to exclude any scholars from attendance; but after complying they may appeal to the department if they consider the notice to be unreasonable."

It will be observed that the proceedings may be likened to a safe with two keys, both of which are required to open its door. One key is in the possession of the medical officer of health and the other in that of the district council or any two of its members. Either is powerless to act alone, but with joint action a school or a department of a school may be closed at a few hours' notice. The medical officer of health may advise the closing, but can go no further; he certainly cannot issue an "order" to close. The district council or any two of its members can require a school to be closed, but only "acting on the advice of the medical officer of health."

TENDENCY TO HÆMORRHAGES IN EXOPHTHALMIC GOITRE.

IN a recent number of the *Neurologisches Centralblatt* (April 15th) Dr. J. Popoff reports two fresh cases of exophthalmic goitre with pronounced tendencies to hæmorrhage from the mucous membranes. He regards this as a valuable symptom in early stages of the disease and has observed such a tendency in three cases out of six or seven. The cases recorded in his present article are as follows. Case 1. A woman of middle age observed after losing her teeth that hæmorrhages occurred from her nose and gums, vagina, and mucous membranes generally. She was accordingly admitted to hospital, in which she remained for 31 days, and during this time she suffered from three attacks of bleeding from the mucous membranes and large hæmorrhagic extravasations into the skin. She gradually improved under treatment and the hæmorrhages ceased entirely. Case 2. The patient was a young woman, aged 27 years, who suffered from similar hæmorrhages at the commencement of exophthalmic goitre. During her residence in hospital, extending over a period of five weeks, she had no less than six severe recurrent hæmorrhagic attacks. Both patients were subject to slight and commencing exophthalmos, and Dr. Popoff is inclined to include the hæmorrhagic tendency among the earlier diagnostic signs of exophthalmic goitre.

OBSERVATIONS ON TUBERCULOSIS IN ITS EARLY STAGES.

A NUMBER of interesting papers constituting a symposium on the above subject was presented by various physicians at the American Medical Congress held at Atlantic City, N.J., from June 5th to June 8th. Dr. J. M. Anders of Philadelphia stated that the pre-bacillary stage of phthisis was one of long duration and extended to the time when the bacilli had invaded the lungs and could be detected in the sputa. During this pre-bacillary stage diagnosis was to be made by three methods: (1) the use of the x rays; (2) the application of the tuberculin test; and (3) a careful study of the history, symptoms, and physical signs. Among the most important indications of the last class was a two hours' temperature record which would show elevation of temperature at a given hour daily. Dr. S. Solis-Cohen of Philadelphia stated that in the incipient stage of tuberculosis the time of the highest temperature was between 12 noon and 2 P.M., except in cases of inverse temperature. Dr. Victor C. Vaughan of Ann Arbor, Michigan, said that the temperature of tuberculosis in its early stages was more characteristic than that of typhoid fever, though many things might cause it to vary. Rest was one of the great benefits of sanatorium treatment. When the temperature was not high a moderate amount of out-door exercise might be indulged in. He further pointed out that many patients suffering from argyria as the result of the use of silver in the treatment of epilepsy developed tuberculosis. This view, however, was controverted by others. Dr. Delancey Rochester of Buffalo thought that the spread of the disease among tailors and seamstresses might in a measure be accounted for by the fact that they had a habit of wetting

the thread in the mouth. Dr. W. Freudenthal of New York City stated that in 1500 cases of tuberculosis present in persons following various occupations tailors were the most frequently affected, those who worked in "sweat shops" or who lived in dark, unventilated rooms being particularly attacked. Dr. C. P. Ambler contended that cases of pulmonary tuberculosis should not be reported as cured until a long time had elapsed. Thus of 46 cases classed as A 35 were regarded as cured. These numbers referred to the present condition of cases treated during 1898 which were reported at the annual meeting of the American Medical Congress in 1899. Again, of 28 cases classed as B six were apparently cured, and of 32 cases classed as C, nine were greatly improved. The treatment adopted was as follows: hygienic supervision, climatic influences, medication, and serum-therapy. Cases apparently cured under serum-therapy were less liable to relapse. Dr. Mayo of New York believed that no tuberculous patient would throw off the liability to the disease, no matter how long he might live, but if a tuberculous patient were relieved of his symptoms for a year he was practically well. Dr. Upshur illustrated the importance of hygiene by citing the case of the negro in the Southern States; when a slave he was practically free from consumption, but at present in the first and second generations since slavery was abolished the march of consumption was so great "as to warrant the feeling that the solution of the social problem lay in consumption," which bade fair to reduce the negro to the same unimportant position in the country as the Red Indian occupied.

SIR W. FOSTER AND THE MEDICAL ARRANGEMENTS AT THE SEAT OF WAR.

SIR WALTER FOSTER'S speech in the House of Commons on the occasion of the debate on June 29th on the treatment of the sick in South Africa does not seem to have been fully reported in the papers. He is stated by some who were present and had the privilege of listening to him to have made some statements which certainly appear to require elucidation, for, taken as they stand, they are calculated to raise the eyebrows of astonishment, as the Germans say. Sir Walter Foster is alleged to have stated that the opinion of the late Professor de Chaumont with regard to the provision of hospital accommodation for an army in the field was that it should be calculated at 25 per cent. As we have been unsuccessful in our attempts to verify this perhaps Sir Walter Foster would be kind enough to furnish a reference to the publication from which he obtained the record of this opinion on the part of Professor de Chaumont. He also stated that in his (Sir W. Foster's) judgment, had prevision been exercised and due provision made the case mortality of enteric fever might have been brought down to 12 per cent. Does he really mean to say that the mortality during a campaign should be less than what it is in hospitals at home where every agency for good is available? If so, he should lose no time in instructing the medical officers, not only of the British, but of all European, armies how this improvement is to be effected, especially under the conditions of war where the sick have in any case to be relegated from the front to hospitals in the rear. We think we recollect that it was the late Sir William Jenner's opinion that the movement of typhoid fever cases was injurious, in which we fancy most medical authorities would be inclined to concur, but this, to mention only one of the things incidental to war, is unavoidable. Moreover, Sir W. Foster seems to have implied or suggested by his remarks that medical officers are in the habit of recording enteric fever as "simple continued fever," with the object of minimising the number of cases of the former. He surely could not have meant this. That cases of enteric fever are occasionally so recorded is a well-known fact, but from no such motive as that implied. Not to mention such cases as are of a mild (ambulant) type, Sir W. Foster's experience must have been of an exceptional character if he has not encountered many in which the true nature of the fever is not (and cannot be) determined with any accuracy in the initial stages of the disease. As a matter of fact, however, it is a common practice among medical officers to regard and return every fever case with a rise of temperature lasting over six days as one of enteric fever. It is easy to understand, however, that as the subsequent "change of disease" (in the statistical returns) entails a certain amount of clerical labour in order to maintain the accuracy of the statistical returns (which members of the House of Commons, including Sir W. Foster, often call for), it frequently happens no doubt that the change is not made, especially in the hurry and pressure of war. But it is obvious that if a small proportion even of the cases of simple continued fever were returned as enteric fever the present death-rate of the latter would be reduced to that extent and be more favourable than it is. The present death-rate of 21½ per cent. may consequently be regarded as an extreme ratio, for it is capable of large discount seeing that simple continued fever is hardly ever fatal. As to what an independent authority in the shape of a small commission could have effected under the circumstances that obtained in South Africa we are at a loss to understand. From a sanitary point of view they could manifestly have done nothing until the British forces had invaded and taken a place, when their operations would have been too late, and they could not have delayed or altered any essential military operations, or prevented the army from altogether outmarching its supplies, or have increased the amount of available transport by rail, or otherwise prevented the enemy from making raids upon it, or fouling the rivers and sources of water-supply, or capturing the waterworks. They might no doubt have represented this and that and "intervened in regard to questions between military commanders and medical officers" if the theatre of war had been a small one or had they been ubiquitous; but could they have got up hospitals and supplies where needed without the means of doing so and would they not have been, in fact, the proverbial "fifth wheel" to an already embarrassed and overladen coach?

TREATMENT OF MEMBRANOUS COLITIS.

THE *Medical News* of New York of June 2nd contains a valuable paper by Dr. W. H. Thomson on the treatment of the very troublesome disease, membranous colitis. He finds that nothing is so soothing to the tenesmus as free irrigation of the colon with normal saline solution, to which may be added oil of peppermint, five drops to the pint. From three to five gallons at 100° F. may be used once in 12 hours with Kemp's rectal irrigator, care being taken that all the fluid returns. Once a week a pint of hot water containing from 30 to 40 grains of nitrate of silver may be used. But this irrigation is not curative, as it is in many cases of chronic catarrhal or ulcerative colitis. One remedy, Dr. Thomson finds, changes the disordered nutrition of the mucous membrane—castor oil in what he calls "alterative doses." He gives from half a drachm to a drachm of the oil in an emulsion either half an hour before or an hour after meals. This remedy should be continued for months and an intermission should be allowed only when the oil seems to increase the dyspeptic symptoms. Nitrate of silver in quarter-grain doses combined in pill or capsule with nine grains of turpentine resin, taken three times a day, is sometimes of much service. After six weeks sulphate of copper in quarter-grain doses may be substituted for the nitrate of silver. If dyspeptic symptoms exist five

grains of resorcin in solution with tincture of nux vomica may be given half an hour before meals and supplemented by 10 grains of sodium benzoate and 10 grains of bismuth salicylate in capsules an hour after meals as intestinal antiseptics. The chronic constipation (on which the disease depends) should be treated by salines. From one to two drachms of phosphate of soda with 10 grains of salicylate of soda should be given every morning in a tumblerful of water as hot as the patient can sip it. After a time the same quantity of sulphate of magnesium may be substituted. Daily massage of the abdomen is useful. As to diet beans, spinach, woody vegetables, and oatmeal, must be excluded, and the patients should be encouraged to take meat, poultry, eggs, koumiss, peptonised milk, and most cereals. Change of air in the country is the best remedy for constipation and it beneficially affects the disease. When all other means fail colotomy, as recommended by Dr. Hale White, may effect a cure.

THE PROPOSED INTERNATIONAL CONGRESS OF OBSTETRICS AND GYNÆCOLOGY IN LONDON.

THE publication of a *précis* of the proceedings relating to the proposed meeting of the International Congress of Obstetrics and Gynæcology in London in the current number of the *British Gynæcological Journal* has enabled those who were but imperfectly acquainted with the facts to form a fairly clear conception of the part taken by the British Gynæcological Society in this matter. It is greatly to be regretted that a perusal of the *précis* does not tend to show that the action of the Gynæcological Society was altogether free from blame. In view of the special nature of the relations existing between the Gynæcological and Obstetrical Societies the council of the younger society would have been well advised had they shown an earlier and greater desire for coöperation not only with the senior society, but, what is of far more importance, with those gentlemen who are the representatives of obstetric medicine in the medical schools of the metropolis. The summoning of an international congress to the capital of the British Empire should not be the work of any one society, however representative it may be. The fiasco which has resulted and which has unhappily only tended to accentuate the differences between the two societies, would never have occurred had the invitation to the organising committee of the Congress been sent, not by any one society, but by a committee representing the leading obstetricians and gynæcologists, not alone of London, but of Great Britain and Ireland. There can be no doubt but that under such circumstances both metropolitan and provincial practitioners would have loyally coöperated and the Congress could not have failed to be a success. Under the present conditions we trust that the Organising Committee of the Congress at their meeting on August 2nd will see that any attempt to hold a meeting in London in 1902 cannot but be a failure and will adopt the only course that at present appears to be open to them—e.g., that of postponing any such meeting in this city for some years. In the present issue of THE LANCET is published a letter from Professor Sinclair of Manchester upon the subject. As a leading provincial obstetrician and as a member of both societies he is able to regard the whole matter without prejudice. We would commend a perusal of this very temperate letter to the members of the Organising Committee of the British Gynæcological Society. As we have said, we believe the best method of promoting a meeting of the International Congress of Obstetrics and Gynæcology in London would be to form a provisional committee of the leading obstetricians and gynæcologists of England, Scotland, and Ireland. Such a committee could well include everyone of a representative character without regard to his official position in any society. With such a committee once called together it would be easy to settle details, to elect a president, and to appoint smaller committees to carry out the arrangements necessary to ensure the success of the Congress. The present unfortunate position is due to the fact that the Fellows of one society have thought fit to move in the matter in their capacity as representatives of that particular society. It is important to note that the meeting held at Dr. Playfair's house was not one of the Obstetrical Society, but of the teachers of obstetrics and gynæcology to the London medical schools, and that these gentlemen signed the letter refusing to take part in a Congress with regard to which important arrangements had already been made before their coöperation was invited in their capacity as teachers and not as Fellows of the Obstetrical Society. Professor Sinclair is clearly of opinion that the council of the Obstetrical Society were justified in the action they took in the matter, and although we must deeply regret that the necessity for any such action should have arisen, yet we fail to see how in justice to themselves they could have done otherwise. We trust when the time comes for again inviting such a Congress to meet in the metropolis that the present unfortunate occurrence will not be forgotten and that steps will be taken to prevent the possible recurrence of such an *impasse* as exists at the present time.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

THE fifty-ninth annual meeting of this association will be held in London on Thursday and Friday, July 26th and 27th, at the rooms of the association, 11, Chandos-street, Cavendish-square, W., under the presidency of Dr. Fletcher Beach, who will deliver his presidential address at 2 P.M. on the opening day. Following the President's address Dr. William Wynn Westcott, coroner for North-East London and president of the Society for the Study of Inebriety, will read a paper entitled "Inebriety, its Causes, Results, and Treatment." Dr. W. J. Collins and Dr. E. B. Forman of the Inebriety Committee of the London County Council are expected to speak. On the same evening the annual dinner will take place at the Whitehall Rooms of the Hôtel Métropole at 8 P.M., tickets one guinea each. On the second day papers will be read by Mr. H. Hayes Newington (member of the Sussex County Council and of the Asylum Committee); Dr. W. Ford Robertson, pathologist Scottish Asylums Laboratory, Edinburgh; Dr. J. Shaw Bolton (who will show some Naked-eye Preparations and Specimens from the museum of the Pathological Laboratory of the London Asylums at Claybury); Dr. David Orr, pathologist, Prestwich Asylum, and Dr. Thomas Philip Cowen who will read "A Contribution to the Morbid Anatomy of General Paralysis of the Insane." Dr. George A. Watson will exhibit some lantern slides to demonstrate Juvenile General Paralysis. Dr. J. O. Wakelin Barratt, pathologist, West Riding Asylum; Dr. John Turner; and Dr. Lewis C. Bruce, physician superintendent, and Dr. H. de Maine Alexander, assistant physician, Perth District Asylum, Murthly will contribute Observations upon the Various Physical Changes in the Acute and Subacute Stages of Melancholia. In the afternoon Mr. Cecil F. Beadles will read a paper entitled, "The Insane Jew"; and Dr. W. C. Sullivan, Dr. David Blair, Dr. A. F. Shoyer, and Dr. F. W. Edridge-Green will also read papers. It was agreed at the council meeting held on May 10th in London, after consulting the divisions of the association which reported unanimously upon the matter, that the following resolution should be placed before the annual meeting with a recommendation that a copy thereof be sent to the Local Government Board in the three kingdoms:—

"It is the unanimous recommendation of the Medico-Psychological Association of Great Britain and Ireland that

in union workhouses in which insane persons are detained a properly qualified and trained mental nurse should be employed in the insane wards."

On Saturday, July 28th, the President, Dr. Fletcher Beach, and Mrs. Fletcher Beach will be at home to members and their friends from 4 P.M. to 7 P.M. in the afternoon at Winchester House, Kingston-hill.

THE MEDICAL ACTS AMENDMENT BILL.

WE understand that Professor Sir R. C. Jebb has undertaken the charge of this Bill in the House of Commons. It has the support of the Privy Council and of practically all the universities and should not meet with any serious opposition.

OBSCURE LEGISLATION.

IN discussing questions relating to public health and local government we have frequently called attention to the obscurity of modern legislation, by no means confined to enactments in dealing with these topics, which arises from making one Act of Parliament incorporate by reference the provisions of another, instead of each statute being, as it were, self-contained. We are glad to see that Mr. Gibson Bowles, M.P., in a recent debate upon the Government Bill dealing with agricultural holdings called attention to this practice in forcible terms. The honourable member had apparently good reason to complain, for he stated that the Bill before the House was the most remarkable example of referential and allusive legislation he had ever come across, adding that no one could approach to an understanding of it until he had provided himself with nine other Acts of Parliament. As instances of the cross referencing of which Mr. Gibson Bowles complained he gave such passages as these, which will make clear to our readers the nature of the system against which we protest. "References to the Principal Act and to Sections 29, 30, 32 and 34 thereof shall be construed as references to the Agricultural Holdings Scotland Act (1883) and to Sections 24, 26, 25, and 30 thereof respectively." "Reference to manures in the Principal Act shall be construed as references to the improvements Nos. 24 and 25 in Part 3 of the first schedule of this Act." The House laughed at the sarcasms which the Member for King's Lynn levelled at a system of drafting which it has made its own, but it is no laughing matter for those who have to guide themselves by the light of such cryptograms in the fulfilment of public duties and who desire to do so without incessantly consulting their legal advisers as to the meaning of what need not be obscure. The system of legislating by cross reference instead of by printing sections in full may render a volume of statutes smaller and easier to handle than it would otherwise be, but to those who are not members of the legal profession lucidity in an Act of Parliament is of more value than a slightly diminished avoirdupois.

ARSENICAL PIGMENTATION AND KERATOSIS WITH ASCITES.

IN the *Johns Hopkins Hospital Bulletin* for April Dr. Louis P. Hamburger has recorded a case in which the above conditions were present. A man, aged 42 years, who had been taking for psoriasis from five to eight minims of Fowler's solution three times a day off and on for 10 years, came under observation. His illness began eight months previously with a "cold" and a cough. About a month later his abdomen began to swell and at the end of the day's work he noticed that his legs were swollen. The skin of almost the whole body was of a mottled yellowish-brown colour, small rounded areas of less pigmented skin alternating with more deeply-coloured parts. The face was slightly affected and the complexion was muddy. The hands and feet were not affected. On the palms the skin was diffusely thickened, and here as well as between the fingers were numerous dirty grey warts and callosities, varying in size from that of a pin-head to that of a pea. The soles were similarly affected. The abdomen was distended with fluid and the shins pitted on pressure. Thomas Hunt was probably the first who called attention to arsenical pigmentation. He wrote: "The trunk of the patient first, and, subsequently, all those parts of the body which are by the dress protected from the atmosphere, become covered with a dirt-brown, dingy, unwashed appearance."[1] Palmar and plantar keratosis were described first by Erasmus Wilson in 1868. In 1887 Mr. Hutchinson called attention to several cases and pointed out, further, that the use of arsenic might lead to the production of a peculiar form of cancer. Dr. Hamburger thinks that the ascites present in his case was also due to the arsenic, for Mr. Hutchinson has described a similar but more severe case in which paracentesis was performed three times and recovery followed only on discontinuing the drug.[2] In Geyer's report on an outbreak of arsenical poisoning due to contaminated water several similar cases are quoted.[3] The inference certainly seems justifiable and is, moreover, supported by analogy. For if ingested arsenic will irritate skin and mucous membrane, why not also serous membrane?

DISEASES WHICH SIMULATE APPENDICITIS.

THE difficulties of diagnosis in cases of supposed appendicitis are very great. Many other morbid conditions have been mistaken for inflammation of the appendix, and in some cases even an operation has been performed. On the other hand, real cases of appendicitis have been diagnosed as suffering from some other malady. In the *New York Medical Record* of May 26th there is a paper by Dr. E. J. Janeway of New York, which was read previously at a meeting of the Practitioners' Society, on "Some of the Conditions Simulating Appendicitis." We will mention a few of the principal cases which have come within Dr. Janeway's knowledge or about which he has been informed by physicians. Neuralgia affecting the lower abdominal nerves has in a number of cases given rise to doubt. In two cases in which operations had been performed the appendix was found to be normal and was not removed. In some the neuralgia was the reflexed pain of pneumonia or pleurisy. Another source of difficulty is in conditions of the right kidney, such as hydronephrosis and moveable kidney. Cholecystitis has in several cases been operated on from the belief that peri-appendicular inflammation existed. Ulcers in the gastro-intestinal tract, or catarrh with colic and cancer of the cæcum, have led to the belief in the existence of appendicitis. Fæcal impaction may be mistaken for exudation, and *vice versâ*. In a certain class of cases, not very frequent, a non-malignant ulcer of the hepatic flexure of the colon, with fæcal accumulation and possibly a moveable kidney, may mislead the inexperienced. An important fact is mentioned by Dr. Janeway that he has known the removal of the appendix to be done for the general aches and pains of follicular tonsillitis. It is only fair to add that he has been consulted in two cases of peritonitis from perforation of the appendix which were ushered in by follicular tonsillitis. Abscess of the ovary, retained menstrual fluid with sapræmia causing chill, or retro-peritoneal abscess may mislead. Hypochondriacal patients may fasten on the appendix as a source of evil and may receive the advice to have an operation immediately. Dr. Janeway's paper is of much value as drawing attention to the importance of an exact diagnosis in cases apparently

[1] THE LANCET, vol. i., 1847, p. 92.
[2] Archives of Surgery, vol. vi., p. 389.
[3] Archiv für Dermatologie und Syphilis, 1898, Band xliii., p. 221.

of inflammation of the appendix, and should serve to guard against every case of pain and tenderness in the right iliac fossa being looked upon as appendicitis.

NEALE TESTIMONIAL FUND.

WE are informed that this fund is about to be closed, but subscriptions received on or before Wednesday next, July 11th, will be included in the complete list which will shortly be published. We would remind our readers that subscriptions should be sent to Mr. J. Y. W. MacAlister, 20, Hanover-square, London, W., and it will save much trouble if cheques are made payable to "Bearer" and crossed "National Provincial Bank, Neale Testimonial Account."

STREET NUISANCES.

LONDON is such an unwieldy agglomeration of some dozen separate cities that coherent action is almost impossible. But the London County Council, which has after many complaints shown itself willing to do something to alleviate the sufferings of those who have to work with their brains, on June 29th held a conference with representatives of the vestries at Spring-gardens. A committee was appointed, to consist of one member from every local authority added to the sub-committee of the County Council, to discuss and report to a future conference upon matters which required definite regulations. The meeting then commenced to consider the removal of refuse and litter and we are glad to see that the case of Bond-street was specially mentioned for it is very narrow and between 9.30 and 10 A.M. in a disgraceful condition. This, however, as well as the question of street noises, was referred to the committee. We do not know whether the recently passed regulations upon "flash-lights"[1] were retrospective or not, but to mention only one of these, the intermittent advertisement at the top of Sloane-street is still hard at work or was so, at any rate, on the night of July 4th. Street-shouting, too, though the nuisance abated for some little time after the promulgation of the recent order,[2] is now, in the Strand at least, as bad as ever it was. The "runner" is not only a nuisance on account of his howling, but he makes great additions to the litter in the streets by dropping posters wherever he goes. Piccadilly-circus is a favourite dumping ground. Sir Edward Bradford issued a notice to the police to stop vendors from shouting, but their efforts have so far had singularly little result. The London School Board, too, might well spend a portion of the £2,000,000 or so which it extracts from the ratepayers in kidnapping the under-sized infants who shriek "cricket editions" at untimely hours. Only recently a maddened householder complained with success of the "terrible monotony of the cooing of a noisy animal, to wit, a dove;" surely the monotony of a newsvendor is far worse. However, relief seems to be visible in the distance.

IT is announced that the Queen has been pleased to confer the honour of Knighthood upon Mr. Riley Lord, the Mayor of Newcastle-upon-Tyne, and upon Dr. George Hare Philipson, the President of the University of Durham College of Medicine, Newcastle. Upon Mr. Riley Lord's unceasing and finally successful efforts to secure a new Infirmary for Newcastle we have already commented and we congratulate him heartily upon his good work and its well-deserved recognition. Dr. George Hare Philipson, besides being President of the University of Durham College of Medicine at Newcastle, is Professor of Medicine in the University and Lecturer on Medicine in the College of Medicine. In 1893 he was President of the British Medical Association. He is M.D. of the University of Cambridge and M.D., D.C.L., of the University of Durham, consulting physician to the Newcastle Infirmary, a Justice of the Peace, and representative of the University of Durham College of Medicine on the General Medical Council. His important and responsible position in the world of medicine has secured him many friends who will join with us in felicitating him upon the honour that he has merited and received.

[1] THE LANCET, March 24th, 1900, p. 866.
[2] THE LANCET, Feb. 10th, 1900, p. 399.

IN our issue of June 23rd we gave a short account of the new pathological laboratories at Oxford and mentioned that last year an anonymous gift of £5000 had been presented to the University towards the erection of the buildings. The donor has now consented that his name should be made known and a decree is to be proposed on July 7th that the thanks of the University be conveyed to Ewan Richards Frazer, M.B., Balliol College, for his munificent donation. Dr. Frazer is a resident of Woolahra, Sydney, N.S.W.

THE honorary degrees of Doctor in Medicine and Master in Surgery of Dublin University were conferred on Sir William Mac Cormac, Bart., K.C.V.O., on June 28th. On the same day Surgeon-General J. Jameson, C.B., Director-General of the Army Medical Department, received the honorary degree of Doctor in Medicine. Both distinguished members of the medical profession were introduced to the Vice-Chancellor by the Orator, Dr. R. Y. Tyrrell, in speeches of excellent Latinity full of happy allusions.

DR. DANIEL JOHN LEECH, Professor of Materia Medica in Owens College, Manchester, died on July 2nd, in his sixty-first year. Dr. Leech represented Victoria University in the General Medical Council, and was Chairman of the Pharmacopœia Committee, but on account of illness was unable to attend the last meeting of the Council.

MR. FREDERICK TREVES, F.R.C.S. Eng., was on June 28th presented with the freedom of Dorchester, his native borough. Mr. Treves, in acknowledging the honour conferred upon him, alluded to the medical arrangements of the war in South Africa, and said that they could look with pride upon the work accomplished.

THE annual distribution of prizes to the students of the Medical School of St. Mary's Hospital will take place on July 13th at 4.30 P.M. The prizes will be presented by Dr. Clifford Allbutt, Regius Professor of Physic in the University of Cambridge.

A TELEGRAM was received at the Colonial Office on Monday last, July 2nd, from Sir Henry Blake, Governor of Hong Kong, stating that 99 cases of bubonic plague with 98 deaths occurred in Hong-Kong last week.

THE annual meeting of the National Association for Promoting the Welfare of the Feeble-Minded will be held at Aubrey House, Campden-hill, W., on Monday next, July 9th, at 4 P.M.

THE appointment of Mr. John Sealy, M.D., as a member of the Legislative Council of the Island of Barbados has been approved by the Queen.

DR. L. S. JAMESON, C.B., has been returned unopposed as member of the House of Assembly of Cape Colony for Kimberley.

THE British Gynæcological Society will meet on Friday, July 13th, at Buxton.

WE are asked to state that the Cambridge Long Vacation Course will be given as usual.

THE WAR IN SOUTH AFRICA.

THE IMPERIAL YEOMANRY HOSPITAL.

BY ALFRED D. FRIPP, M.S., F.R.C.S.

THE rumours which we have had for some days past that Pretoria had fallen into the hands of Lord Roberts are now officially confirmed, so that it is very unlikely that there will be any necessity for the continued presence of surgeons in South Africa, and in consequence I hope that this may be nearly the last, if not quite the last, letter that I shall have the opportunity of sending to you from Deelfontein. The heavy epidemic of enteric fever which has broken out will, of course, necessitate the keeping open of all the hospitals for a considerable time yet, and among them of this hospital. There are over 700 beds here now and we are just opening accommodation for another 200 patients in tents.

There is a rumour that the Yeomanry will be amongst the first of the troops to be sent home, and we hope to arrange to establish a hospital at Maitland camp which is just outside Cape Town, where they will mass in thousands previously to taking ship, and where in consequence there is sure to be a certain amount of sickness to be dealt with. We have, however, not yet heard what is to be the fate of the splendid institution here. It is such an ideal spot for a hospital, and so much time and trouble have been expended on drainage and sanitary works and on the elaborate system of water-supply as well as on the erection of the huts, that it will be a thousand pities if the whole is not taken over as a going concern by the military or the civil authorities and run for the permanent benefit of the large army of occupation that must be left behind or of suffering humanity in general. The alternative of repacking the 750 iron bedsteads and their hair mattresses and their bedding, and the accumulation of hospital paraphernalia and stores which go to make up a total weight of well over 1000 tons, and of transporting all of this nearly 500 miles to Cape Town and then 6000 miles to England, surely only requires to be mentioned in order to be avoided. The mere fact that nearly all the packing cases had to be used up owing to the scarcity of wood would make it an almost impossible task. Perhaps, however, it is early days yet for such considerations. There is still much sickness to be dealt with and we are very thankful indeed that the committee at home have sent out 10 more nursing sisters who will shortly be due in our camp, and in view of the large percentage of sickness amongst our staff will be extremely welcome.

The routine of work throughout the camp has settled itself down so satisfactorily, and every member of the staff does his or her allotted work so well, that everything goes on in a most peaceful and methodical manner, and it is difficult to realise that it is only two or three weeks since the end of those busy and bustling weeks of development and growth when one hardly ever had a quiet quarter of an hour. The cold weather, also, has brought changes which make life here more pleasant. It has killed all the flies, for one thing, and it has made the meat, about which I grumbled in a former letter, much more palatable, for now it is possible to hang it so long that when cooked one's teeth will go through it. This sounds a small thing in itself, but, as you know, it is very much easier to get work out of people when their food is good. The laundry is doing extremely well under Miss Cheesman's care, associated with whom is one of our medical staff, Dr. Bruce, who superintends all the disinfection of linen from the enteric fever patients and other infectious patients. Our carpenters, freed now from the work of erecting huts, are busy putting up shelves and cupboards and stoves for warming purposes as well as a lean-to just outside each hut, in which all the washing-up is done.

By the bye, we succeeded in reaching our full development of 700 beds, as in a former letter[1] I wrote that we hoped to be able to do, well within five months of the date of the appearance in the *Times* of the letter from Lady Georgiana Curzon and Lady Chesham suggesting the sending out of a hospital for the Yeomanry. I do wish that everybody who responded to that letter by subscriptions and gifts could come and see the hospital as it is now. There are very few things which I should try to hide from their gaze and perhaps the most important of these is the condition of the boots of the *personnel*. The fact is, that leather, except such as is specially prepared, perishes rapidly in this climate, and the combination of sand and boulders is not an amicable one for boot-leather; though indeed there are hardly any boulders to be met with now within the camp—they have all been collected by the natives for building walls or for making borders for the system of roads between the huts and the tents. The electric and other lamps which light the way in the streets of our small town exist only in the imagination of the newspaper correspondent whose description we have lately read in one of the London papers.

The smoking concerts continue to attract large audiences, but they take place now inside the large recreation tent which adjoins the church hut and forms the main body of the church on Sundays.

Two Roman Catholic priests and several medical men (both officers of the Royal Army Medical Corps and civilians) have been patients in our officers' wards. When they are well enough the convalescent officers come to our officers' mess. We have by far the biggest mess in the whole of South Africa, there seldom being less than 50 persons present at each meal. We are going to keep Christmas Day on June 25th, for that day will be midwinter, and last night we had a dress rehearsal in the shape of turkey and plum-pudding. It is really very cold now—there are several degrees of frost each night—and we have had to put an oil-stove or a coal-stove in each of the hospital huts.

It has been an unfortunate week for the Yeomanry, for, as you know, the Warwicks were badly cut up in the rebellious districts under Sir Charles Warren, and many of their wounded have arrived here, and then the 13th Battalion had the bad luck to get trapped at Lindley. By the time you get this it will be ancient history and you will know all about the latter misfortune. The only two members of the battalion who were not killed or wounded or taken prisoners are at present in this hospital—namely, an officer who has had enteric fever here but is now convalescent, and a trooper who, after the 13th Battalion of the Imperial Yeomanry (composed, as you know, of those very sporting companies the Duke of Cambridge's Own and the Irish Yeomanry) were surrounded on a kopje near Lindley, was sent to work his way through the Boer lines and fetch reinforcements from Lord Methuen who was in the neighbourhood. After a most exciting journey, partly on foot and partly on commandeered horses, moving each night and lying hidden during the daylight, this trooper got to Lord Methuen and conducted the reinforcements back to Lindley within the time that the officer in command of the Yeomanry had said that he could hold out for; but it seems that the Boers, whose numbers had grown each day from 500 to 2000, had brought some guns into action and had rendered the position untenable. It is a very sad ending for this fine regiment. I have seen a good deal of them since their arrival in South Africa a week or two after we came here, and indeed I travelled part of the way from Bloemfontein to Kroonstad side by side with them, and particularly noticed how well they scouted. I breakfasted in the latter place with them the very day that they set out for Lindley. They were then pointing out the good fortune that had attended their regimental number of "13." They mobilised in England on the 13th day of the month, and three times in South Africa it has happened that they have moved further up country on the 13th. They were such a splendid lot of sportsmen and had borne themselves so well through their more than usually rough time out here that I am sure everybody who knows anything of them will be extremely sorry for their bad luck in getting wiped out just before the end of the campaign; though considering the position they got into it is extremely fortunate that more of them were not killed, and I suppose it cannot be very long before those who were taken prisoners will be released. They will, of course, have lost every single thing they brought with them except the clothes the Boers leave them to stand up in. I think you will find that they will not have so much as a badge left between the whole lot of them, for this is the very first thing that the Boers loot, turning their attention first to the dead, then to the wounded, and then to any prisoners they may take.

Deelfontein, June 11th.

[1] THE LANCET, June 23rd, 1900, p. 1820.

FIELD FORCE—SOUTH AFRICA.

Table showing the Personnel of Medical Units on the Lines of Communication.

Unit and place of mobilisation.	Details.	Remarks.
No. 14 General Hospital (Depôt R.A.M.C., Aldershot).	*Royal Army Medical Corps.* Major S. Butterworth (*a*). Lieutenant F. W. Cotton. " F. M. Parry. " W. J. P. Adye-Curran. " J. G. Foster. " E. G. Ford. " L. M. Purser. " H. B. Faweus. " T. E. Fielding. *Civil Surgeons.* Mr. W. J. I. Bruce. " W. J. Collins. " J. G. F. Hosken. " A. W. Izard. " M. E. O'Dea. " L. E. Owen. " W. M. Power. " R. B. Williams. *Army Nursing Service Reserve.* Nursing Sister Miss M. A. Blair " " " S. Brown. " " " M. E. Buse. " " " A. E. Byrne. " " " A. D. Cameron. " " " E. P. Carruthers. " " " S. A. Claridge. " " " C. Condell. " " " G. Deacon. " " " F. Donald. " " " C. D. Elnslie. " " " M. A. C. Grant. " " " A. M. McIntosh. " " " E. McIntosh. " " " M. M. McIntosh. " " " M. A. C. Millington. " " " J. E. Phillips. " " " K. M. Picot. " " " G. L. Shelley. " " " A. A. S. Webster. (Three female servants.)	One quartermaster to join the unit in South Africa; one warrant officer and 144 non-commissioned officers and men (including 52 men St. John Ambulance Brigade); one warrant officer to join the unit on its arrival in South Africa; one special cook.

(*a*) Secretary and registrar: to act as officer in charge of the unit until its arrival in Natal.

1. The Principal Medical Officer, Natal, will arrange for a Lieutenant-Colonel of the Royal Army Medical Corps in South Africa to be detailed as officer in charge of the unit.

2. A superintendent or acting superintendent to be selected from the Army Nursing Service in South Africa.

Medical Division, War Office, June 28th, 1900.

FIELD FORCE—SOUTH AFRICA.

Nominal Roll of the Army Nursing Service Reserve detailed for duty with No. 13 General Hospital.

Unit.	Names.	Remarks.
No. 13 General Hospital.	Nursing Sister Miss I. J. Armitstead. " " " L. J. Attree. " " " C. Brown. " " " L. A. Cowley. " " " B. Crocker. " " " J. F. Farrer. " " " G. E. Francis. " " " H. Freer. " " " M. Hay. " " " E. Heaton-Cole. " " " J. Mason. " " " J. McLeish. " " " M. J. McNair. " " " M. C. Reilly. " " " F. Smallwood. " " " J. E. Smith. " " " C. M. Theophilus. " " " L. A. White. " " " E. A. M. Wilson. " " " A. Wishart. (Three female servants.)	

1. In addition to the male subordinates referred to in the table relating to No. 13 General Hospital dated War Office, 13th June, 1900, one special cook has since been despatched for duty with this hospital.

Medical Division, War Office, June 28th, 1900.

A CORRECTION.

A correspondent has pointed out an error which has occurred in one of our letters from the front. In THE LANCET of June 16th, page 1744, first column, three lines from the top, the "Washington-Lyons disinfector" is alluded to. The disinfector which was purchased by the committee was not a "Washington-Lyons" disinfector, but the Equifex saturated-steam disinfector, which was supplied by Messrs. J. Defries and Sons of Gravel-lane, London, E.C.

In the July number of *Science Gossip* is an interesting article by Major B. M. Skinner, R.A.M.C., medical officer in charge of the staff of the 6th Division of the South Africa Field Force, at present at Bloemfontein. It is upon the geology of the region traversed by the army during the march from Enslin to Bloemfontein. Major Skinner, who is a skilled geologist, describes the extraordinary appearance and formation of this inhospitable country. The article is illustrated by diagrams of sections.

THE ANTI-MALARIAL CAMPAIGN IN THE AGRO ROMANO.

As the first systematic attempt on a large scale to grapple with the problem of how best to combat malaria in the light of recent discoveries is about to begin in the Agro Romano the following translation of the instructions issued by the Bureau of Hygiene of Rome to the medical men who are to engage in this campaign will prove of interest. In view of the importance of this great experiment, and in order that the conditions under which it is being carried out may be better understood, we give these instructions in full. They are due, we understand, to the combined labours of Bastianelli, Gualdi, Postemski, and Dionisi.

GENERAL INSTRUCTIONS.

To the medical men stationed in the Agro Romana (*medici stazionari*) is entrusted the duty of preparing the work for the summer and autumn seasons before the arrival of the ambulances. They will coöperate with the ambulance medical officers (*medici ambulanti*) when the latter arrive, aiding them with that readiness and cordiality which ought to subsist between cultivators of the humane art in carrying out their common task. They will instruct their colleagues in such matters as the topography of the sanitary station and the position of the different farm-steadings, and proffer counsel and help in the difficulties which may be encountered both in the obtaining of servants and the procuring of the ordinary necessities of life.

Instructions for May and June.—1. The resident medical men will make an individual census of all permanent residents attached to the farms, as well as of their families. The particulars required of each person will be entered in the schedule for that purpose. 2. The schedule will be forwarded to the central office before June 15th. 3. The resident medical men will at the same time begin the treatment of all cases of relapses of malaria amongst these persons as well as among the mowers of hay and the reapers that may come to their knowledge, in accordance with the rule laid down in Table B (near the end.)

Instructions for July.—The ambulance medical officer, already informed by means of the schedule prepared by the resident medical man regarding the persons attached to the different agricultural and pastoral farm-steadings, will endeavour to become personally acquainted with the chief managers (stewards and factors) and the people in their charge, paying special attention to the cowherds, buffalo-herds, and horse-herds who are resident all the year through. He will commence the treatment of malarial patients and will continue it when begun by his colleague and advise as to the requisite prophylactic measures. A special table is given at the end showing the indications to be followed for treatment and for prophylaxis. During the first few days of the month begins the work of the threshing-floor (threshing of oats and wheat) directed by a manager who has under his orders the following persons—viz., one or two sub-managers, one overseer (foreman of the labourers), one herdsman, and sometimes also a herd-boy, a variable number of labourers (who attend to the transport of the sheaves of oats or wheat from the fields where it is reaped to the place where the threshing

machines are erected), one or two mechanics, one or two gangs of workers (consisting of from 30 to 40 persons for each threshing machine), one gang of builders of straw stacks, and one gang for pressing the straw. The ambulance medical officer will learn from the factor where and at what hour he can most conveniently see the foreman and labourers without disturbing their regular work. The hours most favourable for this are usually from 11 A.M. till 1 o'clock P.M. He will take notes in regard to each of the labourers (about the majority of whom he will already have information from the schedule drawn up by the resident medical man) on the schedule provided for the purpose, and of the conditions of health with respect to malaria. He will proceed actively with the treatment of all malarial patients, administering quinine in the manner indicated in Table B ("Treatment of Relapsing Fevers") and will give directions how infection is to be avoided as explained under "Prophylactic Measures." The labourers sleep in the open air as a rule for several hours at night, usually from 9 o'clock till midnight or 1 o'clock, and in the daytime generally from 12 to 1 o'clock. In regard to the quinine administered he will make notes in the diary annexed to the schedule. The majority of the labourers working at the threshing-machines, at the straw press, and at the building of straw stacks will be inscribed on their proper schedule, in which will also be reported the reply given by them to any questions. The relays of workpeople rest every four hours; the medical officer could therefore obtain the information he requires at 8 A.M., at 12 noon, or at 4 P.M. For these inquiries one day at each of the threshing-floors where the machines are at work should suffice. During the subsequent days the medical officer will inspect the threshing-floors, the cattle-farms, and the farm-steadings at such hour as he may deem most opportune, and he will keep accurate notes of the malarial relapses and of the primary attacks as well as of all therapeutic measures adopted. Every week a medical inspector will come to supervise the treatment in the interest of the patients. Towards the end of July the medical officer will obtain information from the overseers as to the number of the harvesters (men and women) who may have come to the farms and as to the place where they may most easily be found. Of these, also, he will make out a detailed list.[1]

Instructions for August.—During the first days of August the Campagna is nearly deserted. Farm work comes to an end and the more fortunate of the workers return to their homes while those who are fever-stricken repair to the hospitals of Rome. Some gangs engaged in the building of straw stacks or attending to the straw presses remain and a few men come to set fire to the stubble. The fixed population is represented by the overseer and by one or two labourers who reside permanently on the farm. The medical officer must keep a record of those remaining and of the new arrivals who are suffering from fever, treat those suffering from fever, and give all of them instructions as to the prophylactic measures to be observed. Those engaged in herding, who live on the cattle-farms, should be watched with especial attention. On farms where there are marshes marsh grasses are cut during this month. The workers are recruited from those who assist during winter and spring in the suburban vineyards and they remain on the farms for about a month. During this month, too, a supply of rushes is taken from the rush beds and the water-melons are gathered in; and on the sea-shore appear the tents of the mussel-gatherers who nearly all take fever. The medical officer will be able to collect accurate particulars from the overseers so as to follow up these various groups of workpeople who will nearly always require his services. Towards the end of August the labourers begin to return and farm-work gradually re-commences. The manager, the sub-manager, the overseer, the baker, and the mason, often with their families, all resume their avocations. It is indispensable that the medical officer should make notes in the schedules as to the condition of health in each individual case, both of those who have remained and of those who may return, that he treat all patients affected with fever, and that he give full instructions regarding prophylactic measures.

Instructions for September.—In September the work-people who reap the maize arrive. Amongst these will be found the greatest number of cases of fever; nearly all of the sufferers have taken part in the work of the threshing-floor, and some have left the hospital only a few days before. They sleep in the open or in small tents. The medical officer will fill up the schedules for each individual and generally carry out the same instructions as those given for the threshing-floor workers both in regard to treatment and to means of prophylaxis. The number of labourers now continues to increase, because from the first of the month onwards the work of preparing the soil for the sowing begins, while on some farms the first ploughing is now done. Besides the ordinary labourers some other workpeople, generally youths and boys, assist at this work, some of whom have come to the Campagna for the first time. Their task is to free the ground from obstacles which might interfere with the passage of the plough. It is possible for these people, if they choose, to sleep under cover. All the foregoing classes of persons must have their state of health inquired into and be made to adopt the measures enumerated in the tables.[2]

Instructions for October.—In this month, in addition to the fixed population, who all return so as to number the same as in the spring, gangs of workmen arrive (mostly from Aquila and Romagna) for the purpose of attending to the construction and repair of the canals or water-furrows, and bands of boys also come who look after the seed. These usually live in houses. The flocks of sheep gradually return in full number to the Agro Romano during October. The chief herdsman, the shepherds, and the other attendants looking after these number on an average about one to every 250 sheep. The medical officer will make a detailed list of these attendants; as a rule, by taking advantage of Sunday he will be able to accomplish this task in a few days, even on the large farms. He will do his best to obtain the adoption of the prophylactic measures recommended and he will attend to the treatment of the settled population and eventually also of the new arrivals.

PROPHYLACTIC MEASURES.

1. *General recommendations.*—Impress upon the workmen continually the advisability of never sleeping unless in closed shelters, houses, huts, tents, or under moveable mosquito nets. Even for a short nap during the day straw ricks and bushes are to be avoided.

2. *Recommendations to persons living in farm-buildings.*—Urge especially upon the manager of the farm whose circumstances will allow it the use of well-made mosquito nets. The ideal plan would be to fix in the windows wire nets painted white with meshes of two millimetres. Care must be taken at the same time that no mosquitoes enter by the doors, and that if they do they be destroyed. Distribute freely the larvicide powder,[3] pastilles, &c., to be burnt, with closed windows, every evening before bedtime. Hunt the mosquito constantly by burning damp straw, eucalyptus leaves, mint, or tobacco leaves in the room with windows closed; the mosquitoes lodge against window-panes or below the furniture, where they should be searched for and killed. It is useful to keep basins in the rooms with sugared water, especially where the mosquito net is used.

3. *Directions for persons living in huts and under tents.*—Numerous mosquitoes are apt to collect in the small huts of the encampments, the medical officer should therefore insist strongly upon prophylactic measures while the work of the threshing-floor is going on. The entrance to the tent should be furnished with a shutter of wire net, muslin, or linen. The inmates should sleep completely covered and perhaps wear a veil or special mask to protect more especially the head and hands. In the evening insecticide powders or pastilles should be burnt in the hut or under the tent. These will be supplied by the medical officer. Smoke thoroughly with damp straw or other suitable combustible material.

RULES FOR THE TREATMENT OF PRIMARY MALARIAL INFECTIONS.[4]

The administration of quinine in tabloids each containing half a gramme of the sulphate should be recommended

[1] The drawing up of this schedule must be done during the medical officer's visit, as it takes very little time.

[2] In the second half of this month the flocks of sheep belonging to the farms nearer the city begin to return to the Agro Romano from their summer pastures. When this happens the shepherds and other men employed on the pastoral farms should have due attention.

[3] Zanzolina (a mixture of "larvicide"—made by the firm of Weiler-ter-Meer, Therdingen—unopened flowers of chrysanthemum cinerari solium and valerian root); quantity, one or two spoonfuls. Also powdered chrysanthemum flowers with nitre, &c.

[4] These rules are given for the sake of obtaining a desirable degree of uniformity in the treatment, and do not pretend to formulate as yet a definitive method of treatment.

during the subsidence or at the end of the febrile attack. The quantity administered should be two grammes daily for three successive days and one gramme daily for other four days. Tabloids sufficient for a week's treatment are to be given in a small box with appropriate directions to each patient. After the remedy has been suspended for five days it will be well to follow the directions for relapsing cases even although there be no return of the fever. Hypodermic injections are only to be employed in exceptional cases. The medical officer is recommended to supervise the treatment of primary æstival infections in which the fever of the first attacks should be suppressed as far as possible, experience having proved the importance for prophylaxis of early treatment.

RULES FOR THE TREATMENT OF RELAPSING MALARIAL FEVERS.

The administration of sulphate of quinine should be carried out as follows:—

After the last febrile attack, or during its decline, two grammes of the quinine in four tabloids are to be given. The following day the same doses are repeated. During the next five days one gramme of sulphate of quinine in two tabloids is administered, after which the treatment is to be suspended for a week. The following week the administration is to be resumed, the patient being supplied with the same quantity of quinine as in the first week, and the quantity taken regulated as before. When the fever no longer returns the daily dose should be reduced by one half. The administration is then to be again suspended for a week. In the fifth week the same amount is to be given in the same way as in the third week, and so also during the seventh week. As a rule it is not necessary to continue the administration beyond the seventh week. During the weeks in which the quinine is suspended, he may, if he thinks proper, administer "Bacelli's mixture"[3] or capsules and tabloids containing iron.

For convenience of reference the above rules may be stated in the following tabular form:—

TABLES FOR THE ADMINISTRTION OF QUININE.

A. In Primary Malarial Fevers.

(Tabloids of 50 centigrammes.)

First	day (near end of febrile attack),	4	tabloids; total,	2	grammes.
Second	,, ...	4	,, ,,	2	,,
Third	,, ...	4	,, ,,	2	,,
Fourth	,, ...	2	,, ,,	1	gramme *
Fifth	,, ...	2	,, ,,	1	,,
Sixth	,, ...	2	,, ,,	1	,,
Seventh	,, ...	2	,, ,,	1	,,

Suspend the administration for five days, then continue as in Table B.

B. In Relapsing Malarial Fevers.

First	day (at end of febrile attack),	4	tabloids; total,	2	grammes.
Second	,, ...	4	,, ,,	2	,,
Third	,, ...	4	,, ,,	2	,,
Fourth	,, ...	2	,, ,,	1	gramme *
Fifth	,, ...	2	,, ,,	1	,,
Sixth	,, ...	2	,, ,,	1	,,
Seventh	,, ...	2	,, ,,	1	,,

Second week.—Suspend quinine; daily observations, &c. (in anæmic persons five tablespoonfuls of "Bacelli's mixture").

Third week.—Repeat treatment as in first week, but if no return of fever reduce dose by one-half.

Fourth week.—Suspend quinine; daily observations (in anæmic cases four tablespoonfuls of "Bacelli's mixture").

Fifth week.—Repeat treatment as in third week, with the same precaution.

Sixth week.—Suspend quinine; observations (in anæmic cases four tablespoonfuls of "Bacelli's mixture").

Seventh week.—Repeat treatment as in fifth week. End of treatment if no return of fever.

* If on the fourth day after commencing treatment the fever does not disappear continue with doses of two grammes. In exceptional cases use hypodermic injections.

Observations.—The treatment of the fever, whether primary or secondary, should be commenced according to the scheme laid down, even when the last attack has occurred some days previously. Whenever the fever asserts itself it is best to recommence the treatment as for the first day and to continue according to the rules prescribed. The total dose of quinine should be given within two hours—i.e., at intervals of half hour, three quarters of an hour, or one hour, according to the fractions. A glass of water should, if possible, be drunk after every tabloid, acidulated by preference with lemon or vinegar. In children the doses should be reduced in proportion to age.

Hypodermic and intravenous injections.—Hypodermic injections are reserved for cases of intolerance of quinine by the stomach and for cases of pernicious fever. In these cases two hypodermic injections are made, each of one gramme of the bi-hydrochlorate of quinine dissolved in five grammes of distilled and sterilised water. A large syringe is employed, the lateral regions of the abdomen being chosen and the skin washed with gauze and absolute alcohol. The needle should also be sterilised with absolute alcohol or by boiling in a test-tube. The hypodermic solutions in sterilised vials, each containing one gramme of bi-hydrochlorate, will be supplied to the medical officer. The patient must then be conveyed to the temporary hospital or to the city. In the hospital injections of camphorated oil and caffeine will be made. During the two subsequent days two grammes of quinine must be given daily either by injection or by the mouth (one tabloid of half a gramme every hour). The intravenous injections according to Bacelli's method will be made in extreme cases in the sanitary station hospital. For these injections boiled solutions of neutral hydrochlorate of quinine at a temperature of 40° C. should be employed exclusively in doses of one gramme in 10 cubic centimetres of chloride of sodium solution (0·75 per cent.).

[3] "Bacelli's mixture" contains the following ingredients: sulphate of quinine, 3 grammes; tartaric acid, 3 grammes; arseniate of soda, 5 centigrammes; distilled water, 300 grammes. The dose for an adult is one tablespoonful

ST. BARTHOLOMEW'S HOSPITAL AND CHRIST'S HOSPITAL.

FOR the past 15 years negotiations have been proceeding between the authorities of St. Bartholomew's Hospital and those of Christ's Hospital with regard to the former institution acquiring some or all of the land upon which the latter stands. Negotiations have now come to a dead-lock and on July 2nd a special court of the Governors of St. Bartholomew's Hospital was held to consider the situation. His Royal Highness the PRINCE OF WALES, President of the hospital, was in the chair and a full report drawn up by the treasurer and almoners was presented to the meeting. As this report was very lengthy, Sir SYDNEY WATERLOW recapitulated its main points in his speech as follows:—

As far back as the year 1885 the treasurer of Christ's Hospital wrote on behalf of his governing body stating that they would not fail to confer with the governors of this hospital in reference to the portion of their land which they desired to acquire. In the year 1890, after the constitution of Christ's Hospital had been revised, the new governing body resolved that negotiations be entered into with the governors of St. Bartholomew's Hospital to take as much of the Christ's Hospital site as they wished to have on the principle of arbitration with an umpire. We thus have the old governing body and the new governing body agreeing to sell us the land by arbitration. If this had been an agreement between two honourable commercial men there cannot be a doubt but it would have been regarded as binding, morally if not legally, but the governors of Christ's Hospital by their letter of November last entirely repudiate their agreement of 1893 and refuse to sell to us the land which we require for the enlargement of our hospital. The necessity for this enlargement is shown most clearly and distinctly by the letter from the medical and surgical staff dated November last in which they practically ask us to buy the whole site of Christ's Hospital. Personally I do not think that the purchase of the whole site would be a very speculative undertaking. ..... I hold in my hand the return of the sums available for hospital purposes during the last 30 years after paying all expenses. In 1869 our net revenue was £38,462, and in 1899 £72,454, or an increase of £34,000, thus nearly doubling our income in 30 years in face of great losses sustained upon many thousand acres of agricultural property in Essex, Lincolnshire, Kent, and elsewhere. Remembering that so large a portion of our property consists of houses and land in the great metropolis this increase is certainly worth at least 33 years' purchase and this would add £1,132,000 to our property in 30 years. ..... We cannot, I think, close this discussion without assuming for a moment that Parliament may not give us compulsory powers to purchase the land we require and that the governors of Christ's Hospital may not agree upon any terms that we can

accept. What position shall we be placed in? Well, it seems to me that we shall have but two alternatives, either to divide our work, separating to some extent the educational and scientific work from the nursing and treatment of sick patients. We possess some acres of small houses about a quarter of a mile north of this hospital where we might build a new hospital for some of the patients and where we might carry on the out-patients' work. This would be rather an advantage to the patients as the new hospital would be nearer their homes. If this course were not thought desirable there is another alternative. We might pull down all the older buildings, many of which are very dilapidated and the four blocks containing the patients. We should perhaps have to give up the church, the official residences, and the ground around them, and by rebuilding the hospital on modern lines with all the best modern appliances we could no doubt increase the accommodation from 30 to 40 per cent. Money could be borrowed. Let us try to imbue our hearts with the faith and hope which stimulated our great founder, Rahere, who in the year 1123, nearly eight centuries ago, started this hospital which from the beginning was "a hospital for the sick" and he, having no funds, begged at the new gate of the city for moneys to pay the expenses. Let his spirit stimulate us to go on to promote the prosperity of this old and Royal institution, always remembering that if we at any time feel obliged to appeal for more money we shall not make that appeal in vain.

A motion was then brought forward by Sir SYDNEY WATERLOW instructing the treasurer and almoners to adhere to the offer of £117,000 which had already been made for a portion of the site, and failing the acceptance of this that they should endeavour to effect a settlement upon the basis of the resolution of the Council of Almoners of Christ's Hospital which had been passed in December, 1893. Further, if neither of the above-mentioned alternatives should result in a contract to purchase, that Parliament should be applied to to obtain compulsory powers for purchase. This was seconded by Mr. WILLIAM FLUX and supported by the LORD MAYOR and Mr. G. BAKER.

The PRINCE OF WALES, before putting the motion, said that he only wished that the whole site could be bought, but that it was an absolute necessity that the one and a half acres should be acquired for which the sum of £117,000 had been offered. He trusted that the Charity Commissioners would back them up and that Parliament would not refuse. The motion was then put and carried unanimously.

There is but little to add to the simple statement made by Sir Sydney Waterlow. Everyone who has any acquaintance with St. Bartholomew's Hospital knows the urgent need for reconstruction and enlargement. The mortuary and post-mortem room are small, cramped, unwholesome, and quite inadequate for their purposes. The nurses' quarters must be reconstructed and rebuilt. The surgery is far too small and the college where the residents and students live consists of dark insanitary little houses. No one can blame Christ's Hospital for trying to get as much for their site as possible, but a promise is a promise and the authorities of Christ's Hospital have made a promise. Legal force it has none, but morally it is as binding as anything could be and if the almoners of Christ's Hospital break their parole it will not tend towards increasing public confidence in that body. A tyrannous king and an unscrupulous Minister did their best to ruin St. Bartholomew's Hospital when they laid sacrilegious hands upon the great priory of which the hospital had always formed a part, and although on the petition of the citizens of London the hospital was "refounded" and a beggarly pittance of 500 marks per annum given back out of its old revenues, it would be a fitting act for Parliament to step in and insure that Rahere's noble work shall not be again fettered.

THE SEWERAGE OF LEICESTER.

A LONG series of experiments, extending over some thirteen and a half months, upon the bacterial treatment of the sewage of Leicester, at the Beaument Leys farm, have at length been completed. They were carried out under the direction of Mr. E. George Mawbey, M.Inst.C.E., the borough engineer and surveyor. The results of these experiments have been printed in full in the form of a report to the Leicester Highways Committee and the Sewerage and Sewage Works and Farms Committee. This report is accompanied by a large number of coloured diagrams which enable the reader readily to see the analytical results and percentages of improvement arrived at by the several experiments, and besides these there are a plan of the sewage farm and district and many well-arranged analytical tables. The several analyses were made by Mr. S. F. Barford, F.C.S., whose method of working is given in an addendum. The undertaking throughout reflects great credit, not only upon the authors of the report, but upon all who have contributed to render such an inquiry possible. The publication will doubtless prove most advantageous as guides in future developments of the bacterial treatment of sewage.

Leicester has been for some time past in great difficulties with its sewerage system, arising not only from questions of level and the inadequate size of many of the sewers but from the very faulty construction of the older ones, which circumstances combined tend to establish a condition of things most detrimental to health. Owing to the defective sewers an enormous volume of subsoil water has to be pumped in addition to the normal flow of sewage. Many districts are flooded at times of heavy rains. This state of things, aggravated by the heavy character and limited area of the land available for irrigation, has led to the present inquiry. It is now proposed to reconstruct at least some 10 miles of the more defective sewers and to adopt a modified system of bacterial treatment in conjunction with one of irrigation. By these means it is hoped that the authorities will be able to deal effectively with the sewage and to comply with the requirements of the Local Government Board with but a slight additional increase to the present area of their sewage farm. The estimated outlay is placed at about £170,000.

The experiments were conducted with the following plant: (1) an open detritus tank; (2) a closed detritus tank; (3) an open settling tank; (4) the same tank as No. 3, made air-tight with inlets and outlets trapped and worked as a septic tank; (5) a first contact bacteria bed filled with coarse filtering material; (6) old pasture land and land laid out for rye grass for treatment of the effluent; and (7) a second and third contact bacteria bed filled with fine filtering material for final treatment of effluent irrespectively of irrigation. No trial appears to have been made of any anaerobic bacteria bed having an upward action. In the experiments at Finchley sewage farm in 1898 conducted by Dr. H. R. Kenwood, assistant professor of public health in University College, London, and Dr. William Butler a bed or filter of this description was found to be most effective in liquefying the sludge, the best results being obtained by a long rest in the filter. The actual amount of purification that took place was, however, limited. Mr. Mawbey doubtless had reasons for not instituting such a trial; in fact, he states that at Leicester they have no difficulty in disposing of the sludge. The period of rest required might also have proved a drawback to its adoption.

Space will not allow us to follow the many experiments in detail. They amounted to 17 in all. The detritus tank was retained in each case, being sometimes placed under anaerobic conditions. The other tank and beds were used in varying sequence. Briefly, the experiments tended to test four systems: (1) the septic tank system; (2) clarifying by bacteria beds only; (3) a combination of the septic tank with bacteria beds; and (4) a combination of bacteria beds with subsequent irrigation. The results of these experiments have led Mr. Mawbey to recommend his committee to adopt the combined system of bacteria beds with irrigation, forming No. 7 of his series of trials, and taking all the circumstances into consideration no doubt he is well advised in this course.

The following is a short description of experiment No. 7, which was extended over a period of 33 weeks. The crude sewage first flowed through the closed detritus tank, the effluent from which was discharged upon a group of clarifying bacteria beds each taking nearly an hour to fill. In these beds it rested for two hours, and a like period of two hours was occupied in emptying them. Each bed then remained empty for three hours; the entire process occupied about eight hours, thus permitting the beds to be filled three times during the 24 hours. The effluent was then allowed to flow once only over a plot of pasture for a distance of about 80 yards before being discharged into the dike leading to the river.

There were in all 28 sets of analyses made between

Dec. 2nd, 1898, and July 2nd, 1899, the averages of which given in grains per gallon, are as follows.

Matter in suspension.—Crude sewage, 43·7; detritus tank, 20·32; bacteria beds, 4·87; and pasture, 0·385. Final percentage of purification on crude sewage, 99·12.

Albuminoid ammonia.—Crude sewage, 1·182; detritus tank, 0·893; bacteria beds, 0·343; and pasture, 0·156. Final percentage of purification on crude sewage, 86·76.

Oxygen absorbed at 80° F. in four hours.—Crude sewage, 7·442; detritus tank, 5·795; bacteria beds, 2·145; and pasture, 0·663. Final percentage of purification on crude sewage, 91·08.

Nitrogen as nitrates.—Crude sewage, 0·044; detritus tank, 0·044; bacteria beds, 0·068; and pasture, 0·172.

Matter in solution.—Crude sewage, 73·05; detritus tank, 71·15; bacteria beds, 68·3; and pasture, 63·95.

Looking at these results the process of sewage purification is well exemplified. In the passage of the sewage through the closed detritus tank a larger percentage of improvement is seen to have taken place than is to be accounted for merely by sedimentation. A certain loss of chemical stability is evidently acquired which would most likely have been increased had the flow through the tank been still further retarded. The sedimentation was, however, considerable, and the smell from the sludge upon its removal from this closed tank is said to have been horribly offensive. In the aerobic bacteria beds, as might have been expected, the original details of the several analyses show that the amount of albuminoid ammonia and of oxygen absorbed varies greatly. This is of course also the case in the crude sewage, but in the several effluents the variation is also great in the proportional improvement effected, suggesting that at times the beds were being over-worked. It is well known that a bacteria bed of a given area is only capable of showing a certain improvement in its effluent in a given time from sewage of a fixed standard of strength; should this standard vary the character of the effluent varies accordingly. Mr. D. Scott Moncrieff, C.I.E., states that the best results are obtained from a filter when the strength of the sewage supplied to it is most constant. A perusal of the tables relating to the other experiments tends to confirm a previous suspicion—viz., that what is known as the septic tank system is only capable of a limited application. In large manufacturing towns with sewage conditions like those of Bradford, for instance, it might be likely to lead to disappointment.

At the end of the report are printed some interesting notes with illustrations of microscopical work by Dr. A. C. Houston relating to the experiments on London sewage at the Crossness outfall.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 33 of the largest English towns 6592 births and 3368 deaths were registered during the week ending June 30th. The annual rate of mortality in these towns, which had been 18·0 and 14·9 per 1000 in the two preceding weeks, rose again to 15·1 last week. In London the death-rate was 14·5 per 1000, while it averaged 15·6 in the 32 provincial towns. The lowest death-rates in these towns were 9·0 in West Ham, 9·4 in Portsmouth and in Swansea, and 9·9 in Croydon; the highest rates were 18·1 in Halifax, 18·6 in Wolverhampton, 20·7 in Manchester, 21·3 in Salford, and 22·7 in Liverpool. The 3368 deaths in these towns included 419 which were referred to the principal zymotic diseases, against 427 and 366 in the two preceding weeks; of these 112 resulted from measles, 110 from whooping-cough, 70 from diphtheria, 55 from diarrhœa, 44 from scarlet fever, 27 from "fever" (principally enteric), and one from small-pox. No fatal case of any of these diseases occurred last week in Halifax; in the other towns they caused the lowest death-rates in Brighton, Portsmouth, Plymouth, and Preston; and the highest rates in Derby, Blackburn, Huddersfield, Sheffield, and Sunderland. The greatest mortality from measles occurred in Cardiff, Derby, Huddersfield, Hull, and Sunderland; from scarlet fever in Blackburn and Gateshead; from whooping-cough in Wolverhampton, Derby, Oldham, Sheffield, and Gateshead; from "fever" in Huddersfield; and from diarrhœa in Birkenhead and Blackburn. The 70 deaths from diphtheria included 29 in London, 10 in Sheffield, six in Leicester, and five in Liverpool. One fatal case of small-pox was registered in Salford, but not one in any other of the 33 large towns. There were 16 small-pox patients under treatment in the Metropolitan Asylums Hospitals, on Saturday last, June 30th, against 15 and 13 at the end of the two preceding weeks; eight new cases were admitted during the week, against eight and one in the two preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1832, against 1754, 1766, and 1810 on the three preceding Saturdays. 210 new cases were admitted during the week, against 203, 210, and 219 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 268, 257, and 181 in the three preceding weeks, further declined last week to 180, and were eight below the corrected average. The causes of 40, or 1·2 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bolton, Oldham, Hull, and in 10 other smaller towns; the largest proportions of uncertified deaths were registered in Swansea, Birmingham, Liverpool, Bradford, and Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19·9 and 16·5 per 1000 in the two preceding weeks, rose again to 17·9 during the week ending June 30th, and was 2·8 per 1000 above the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 12·6 in Leith and 13·3 in Aberdeen to 21·9 in Perth and 25·8 in Greenock. The 552 deaths in these towns included 26 which were referred to whooping-cough, 24 to diarrhœa, 18 to measles, seven to scarlet fever, four to "fever," two to small-pox, and two to diphtheria. In all 83 deaths resulted from these principal zymotic diseases, against 78 and 60 in the two preceding weeks. These 83 deaths were equal to an annual rate of 2·7 per 1000, which was 0·8 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping-cough, which had been 21 and 18 in the two preceding weeks, rose again last week to 26, of which 23 occurred in Glasgow. The deaths from diarrhœa, which had been 22 and 19 in the two preceding weeks, rose again to 24 last week, and included eight in Glasgow, four in Edinburgh, four in Dundee, three in Aberdeen, and three in Greenock. The deaths from measles, which had been 23 and 14 in the two preceding weeks, rose again last week to 18, of which 11 were registered in Glasgow and four in Edinburgh. The fatal cases of scarlet fever, which had been six, six, and two in the three preceding weeks, rose again to seven last week, and included five in Glasgow. The deaths referred to different forms of "fever," which had been two in each of the two preceding weeks, rose last week to four, of which two were registered in Edinburgh. The two fatal cases of small-pox occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had declined from 106 to 87 in the three preceding weeks, rose again last week to 97, and were 20 above the number in the corresponding period of last year. The causes of 26, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 23·8 and 17·9 per 1000 in the two preceding weeks, rose again to 20·0 during the week ending June 30th. During the 13 weeks of the quarter ending Saturday last the death-rate in the city has averaged 25·4 per 1000, the rate during the same period being 17·6 in London and 19·0 in Edinburgh. The 134 deaths belonging to Dublin registered during the week under notice were 14 in excess of the number in the preceding week, and included three which were referred to the principal zymotic diseases, against 10, six, and four in the three preceding weeks; of these, two resulted from whooping-cough and one from diarrhœa. These three deaths were equal to an annual rate of 4·0 per 1000, the zymotic death-rate during the same period being 2·0 in London and 1·9 in Edinburgh. The mortality both from whooping-cough and from diarrhœa exceeded that recorded in the preceding week. The 134 deaths in Dublin last week included 19 of infants under one year of age and 33 of

persons aged upwards of 60 years; the deaths of infants showed a decline, while those of elderly persons were slightly in excess of the number in the preceding week. Seven inquest cases and four deaths from violence were registered; and 38, or more than a quarter, of the deaths occurred in public institutions. The causes of eight, or nearly 6 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified: — Staff-Surgeon H. Holyoake to the *Vindictive*. Surgeons: G. B. Brown to the *Britomart;* J. W. Bird to the *Bramble;* J. O'Hea to the *St. Vincent* and G. M. Eastment to the *Excellent*, both lent during the manœuvres; G. E. Glynn to the *Vindictive;* and J. H. Lightfoot to the *Boscawen* for the *Wanderer*.

ROYAL ARMY MEDICAL CORPS.

Major F. M. Baker has joined at Woolwich for duty. Captain C. K. Morgan has been granted leave of absence out of India for six months on medical certificate. Colonel William E. Riordan is placed on retired pay. Lieutenant-Colonel James McNamara to be Colonel, vice W. E. Riordan.

MILITIA MEDICAL STAFF CORPS.

Ernest Urquhart Bartholomew to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

Royal Engineers: 1st Bedfordshire: Arthur Conning Hartley to be Surgeon-Lieutenant. *Rifle:* The Queen's Rifle Volunteer Brigade the Royal Scots (Lothian Regiment): Surgeon-Captain John Hugh Alexander Laing resigns his commission and is appointed Captain. 3rd Volunteer Battalion the Lincolnshire Regiment: James Matthews Duncan to be Surgeon-Lieutenant. 2nd Volunteer Battalion the Worcestershire Regiment: Cecil Aloysius Corke to be Surgeon-Lieutenant. 1st Volunteer Battalion the Loyal North Lancashire Regiment: Surgeon-Captain Charles Samuel Alfred Rigby resigns his commission and is appointed Captain.

TRANSVAAL WAR NOTES.

The first report of the American Hospital Ship (*Maine*) Fund for South Africa from Oct. 27th, 1899, to April 30th, 1900, has just been issued. Besides lists of subscriptions, donations, &c., it contains reproductions of photographs of Lady Randolph Churchill and her son, Surgeon-Lieutenant-Colonel Hensman and the nursing sisters, the surgeons, and the *Maine*.

Civil Surgeons R. B. Williams, W. J. Collins, and Pullin have embarked for South Africa.

Staff Surgeon E. P. Mourilyan, R.N., of the South African Naval Brigade, is returning to England invalided.

Major Whaite, R.A.M.C., Captain Dalton, R.A.M.C., and Lieutenant Cuddon-Fletcher, R.A.M.C., have left South Africa for England invalided.

Civil Surgeons Nicol, Goodman, and Thomas are returning invalided from South Africa.

The Welsh Hospital was ready for the reception of patients on June 1st. The huts, nurses, assistant surgeons, and 13 dressers and orderlies were sent to Springfontein on May 25th and on the last day of that month the late Professor T. Jones, Dr. Lynn Thomas, and Dr. Mills-Roberts arrived. The site of the hospital at Springfontein is 5000 feet above the level of the sea. Letters have been received in Cardiff from the hospital staff describing their quarters as "comfortable and almost luxurious." Patients too have written and spoken in high praise of the hospital.

Twenty nurses selected from the nursing staff of the London Hospital are being sent out to South Africa immediately.

The Prince and Princess of Wales have fitted up a farmhouse close to Sandringham for the use of officers invalided from the war who need convalescent help and have nowhere to go. This home in the first instance will be offered to colonial officers who will be considered as their Royal Highness's guests.

TRANSVAAL WAR CASUALTIES.

Civil Surgeon W. B. Bennett is reported dangerously ill in No. 1 Stationary Hospital, Mooi river.

Major Dodd, R.A.M.C., is seriously ill at the Base Hospital, Maritzburg.

ARMY MEDICAL SCHOOL, NETLEY.

The following is a list of Surgeons on probation of the Indian Medical Service who were successful at both the London and Netley examinations, June 30th, 1900. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley and the combined numbers are accordingly shown in the list which follows:—

		Marks.			Marks.
*	1. Graham, J. D. ...	6508		10. Macnee, H. R.	5017
* †	2. Sprawson, C. A. ...	5875	**	11. Deas, L. J. M.	4899
‡	3. Mackelvie, A.	5495		12. Houston, W. M. ...	4375
§	4. Lapsley, W.	5417		13. Keys, W. D. A. ...	4645
	5. Cazaly, W. H.	5370		14. Young, G. J. G. ...	4534
	6. Browne, P. A.	5354		15. Good, J.	4501
	7. Coppinger, W. V. ...	5336		16. Chalmers, A.	4479
¶	8. Spitteler, A.	5127		17. Hamilton, W. G. ...	4375
	9. Oxley, J. C. S.... ...	5025		18. Godkin, S. R.	4314

* Gained the de Chaumont Prize in Hygiene, Hon. Mention in Surgery.
† Gained the Herbert Prize of £20, First Montefiore Prize of £21 and Medal, the Pathology Prize, and Hon. Mention in Hygiene.
‡ Gained the Second Montefiore Prize, and Hon. Mention in Medicine.
§ Gained the Parkes Memorial Prize, Martin Memorial Gold Medal, Hon. Mentions in Pathology and Surgery.
‖ Hon. Mention in Pathology.
¶ Hon. Mention in Medicine.
** Gained the Maclean Prize in Clinical and Ward Work.

Owing to the war in South Africa there was no public distribution of prizes. The prizes were privately distributed by Colonel K. McLeod, M.D. Edin., LL.D. Aberd., Professor of Military and Tropical Medicine.

DEATHS IN THE SERVICES.

Inspector-General of Hospitals Thomas Walter Barrow (retired) at his residence at Woolwich on July 1st in his 83rd year. He entered the army in 1841 and served with the 2nd Queen's Royals in Scinde in 1843. In the Southern Mahratta country in 1844 he was present at the storming and capture of Fort Punella, and he took part in the campaign in the Conean in 1845, when Forts Monahur and Monsautosh were captured. He was also engaged in the Kaffir War of 1852–3. In August, 1864, he proceeded to Bermuda as Principal Medical Officer of a medical relief force in consequence of an epidemic of yellow fever which devastated the troops and population of the islands. For this service he was promoted to the rank of Deputy Inspector-General, the special General Order issued referring to his "highly meritorious services" in connexion with the epidemic. In 1865 he was appointed principal medical officer of Nova Scotia, and in 1866 to the same position at Woolwich and the London district. He retired in 1868.

THE CRISIS IN CHINA.

The following officers are reported as having been landed with Vice-Admiral Sir E. H. Seymour in North China:—Fleet Surgeon: T. M. Sibbald, H.M. battleship *Centurion*. Surgeon: E. D. Macnamara, H.M. cruiser *Endymion*. The *Jelunga*, No. 7 Transport, which left Portsmouth on Saturday, June 30th, with reinforcements for China, had on board the following medical officers:—Staff Surgeon W. E. Home (in medical charge); Surgeon A. Gaskell, Surgeon J. D. S Milln, and Surgeon R. C. Munday.

Staff-Surgeon J. Mc C. Martin, D.S.O., R.N., and Surgeon N. Roche, have left for China in the P. and O. steamship *Australia*.

The *Jelunga* carries a large supply of field chests, medicines, surgical instruments, Roentgen ray apparatus, ice machines, surgical dressings and appliances, and all other necessaries, so that after discharging the naval force which she is conveying to China, if necessity should arise, she can be converted into a hospital ship on that station for naval purposes.

WARS: PRESENT AND PROSPECTIVE.

The Imperial idea and system are costing this country a large amount in blood and treasure at the present time. Setting aside the South African and Ashanti campaigns we have to take our part in the trouble in China, which promises to be, and is indeed already, a very formidable business. There will inevitably be a great demand for your g medical men.

Correspondence.

"Audi alteram partem."

THE PROPOSED MEETING OF THE INTERNATIONAL CONGRESS OF OBSTETRICS AND GYNÆCOLOGY IN LONDON IN 1902.

To the Editors of THE LANCET.

SIRS,—It is a fair question for discussion whether international medical congresses are of any real service to medical science, but most of us will agree that they may be made pleasant and interesting. They may be even advantageous to individuals in enabling them to form correcting personal impressions of men whose published contributions to special medical literature they have been accustomed to read, and so to assess the value of their work. Assuming that these congresses are worth the trouble of organising, we shall be unanimous in professing to believe that they are the last class of medical assembly in the arrangements of which mere local dislikes and jealousies should come into play, or where places of honour, rightfully bestowed in recognition of distinction upon those most honoured by their countrymen who know them best, should by misadventure or mismanagement be conferred upon mere pushfulness and self-seeking. These reflections, and many others of a like nature, arise from the painful reading which you provided by the publication, in May this year, of the letters of the teachers of obstetrics and gynæcology in London and of the chief official representatives of the British Gynæcological Society anent the proposed International Congress of Obstetrics and Gynæcology to be held in London in 1902. But to all who take an interest in the progress of gynæcological science in England and are desirous of seeing British gynæcology held in honour by the medical profession throughout the United Kingdom, the feeling of pain and regret produced by the quarrel must be greatly deepened by a perusal of a "*précis* of proceedings relating to the proposed meeting of the International Congress, &c.," published in the last number of the *British Gynæcological Journal*. It is a summary of the proceedings of the British Gynæcological Society which culminated in the present unhappy position. Many men who are provincial specialists, or who specialise to the extent of being interested, are asking whether something cannot be done to relieve the tension and remove the deadlock between the two great societies in London, the persistence of which will entail a disastrous *fiasco* and a discredit to British gynæcologists in general if the present project to hold an international congress is not abandoned.

In intervening in the dispute and asking you to permit me to put certain considerations before your readers as a contribution towards the happy solution of existing difficulties I am not unmindful of the possible consequences to the candid friend. But after much cogitation I have reached the conclusion that certain circumstances call upon me to say something on the subject, and I respond to the call in the hope that some others, placed like myself outside the circles where personal considerations may unconsciously exercise a biasing influence, may be encouraged to come forward and lend the assistance of their opinions and advice. I have reason to believe that at the present time I am a member of Council both of the Obstetrical Society of London and of the British Gynæcological Society; I am also on the Council of the North of England Obstetrical and Gynæcological Society. These three societies between them cover the whole of England and to some extent overlap. Many provincial specialists are members of one or other of the London societies; some of my friends are, like myself, members of all three. I attended the International Congress at Geneva in 1896 and that at Amsterdam in August last. There were many opportunities of learning foreign and American opinion and of seeing ourselves as others see us. And these opportunities in my case were still further increased by renewing acquaintance with many American representative men at the congress of American obstetricians and gynæcologists at Indianapolis last September, and hearing their frank but friendly criticisms of the British *Fachgenossen*. Now, in the light of my own personal knowledge of American opinion, and remembering the importance of the American element in every international meeting, I am amazed at the want of consideration given by the Council of the British Gynæcological Society to the repeated spoken and written statements of Dr. Engelmann, president of the American Gynæcological Society, to the effect that "the invitation could be accepted only, and the Congress could be a success only, if the two great societies of Great Britain are united in their desire to see the Congress in their midst."

What then is the present situation? After this clear expression of opinion from the chief official representative of America; after the refusal of the Obstetrical Society to issue a joint invitation to the Congress; after the letter of the past and present lecturers and teachers of obstetrics and gynæcology in the London medical schools unanimously declining to promote or join the Congress; and even after the withdrawal of Professor Simpson from the position of president-elect on the ground that the Organisation Committee of the British Gynæcological Society was not sufficiently representative of metropolitan gynæcology, the council of the British Gynæcological Society still persevere in their unfortunate course. They have assured the permanent secretary of the Congress (Dr. Jacobs of Brussels) "that the Organisation Committee are anxious to do all they can to make the 1902 Congress a success and will continue energetically with the work they have commenced." Then they proceed to place themselves "at the disposal of the founders" and to give these foreign gentlemen the opportunity of reconsidering their acceptance of the invitation. Now, with all respect to my friends of the British Gynæcological Society I maintain that they thereby place themselves in an undignified, not to say ridiculous, position, and if they are as representative as they allege they drag British gynæcology with them. They reject the advice of friendly America, whose much-travelled representative men know us and understand us as we do one another, and they humiliate themselves before an unorganised committee of foreigners—a tribunal *pour rire*—who are notoriously and incurably ignorant of the personality and relative standing of British gynæcologists, and are separated from us by the gulf of alien ethical standards. Furthermore, there is a dilemma. If the invitation is still accepted the congress is bound to be a failure, perhaps as marked as that of Amsterdam, which was shunned by all Germans of distinction. On the other hand, if the invitation is not accepted after all, then the committee of the British Gynæcological Society bring upon themselves a snubbing which the consciousness of their singularly representative position must make all the more grievous and hard to bear.

In my humble opinion the Organisation Committee were in duty bound to make a stand, and in the exercise of their own judgment to come to a decision in this matter regardless of foreign influence. It is eminently a question for British gynæcologists and for them alone. If the actions of the Organisation Committee originated in disinterested public spirit (and how can it be otherwise?) they must seek to coöperate in bringing about a congress successful from both the scientific and social points of view, and they must desire to see in places of distinction on that occasion the colleagues whom *we in England* honour because of their character and work achieved. If this be so then the committee is bound to respond to unmistakeable expressions of opinion which are of weight beyond cavil, to hold all proceedings so far as quashed, to withdraw their invitation, and to join in a movement *de novo* towards the end in view.

The relations between the Obstetrical Society of London and the British Gynæcological Society are pretty well known and appreciated by provincial specialists both in their origin and incidents. But these relations, though largely responsible for the present situation, form too large and general a subject for discussion now. There have been, in the opinion of provincials, grievous faults on both sides. The refusal of the Obstetrical Society to coöperate with the British Gynæcological Society was perhaps too curt and unqualified, and is to be regretted. But those who know the history of the relations between the two societies must feel that, until men have developed a saintly meekness almost incompatible with vigorous action, no other result was to be expected. The Obstetrical Society has never received much encouragement to take part in the proceedings of the International Congress. Members of an inner circle of the British Gynæcological Society have been too frequently nominated, as the best that England could produce, to introduce or take prominent places in the official discussions, and

these have not seldom been men who would never have been selected as representatives by any conceivable parliament of British gynæcologists.

I remember well the presentation of the invitation from Great Britain to the Congress at Geneva. The deputation consisted essentially of two official members of the British Gynæcological Society who were notoriously antagonistic to the Obstetrical Society. And it should be remembered that the invitation presented at Amsterdam was merely a renewal of that given at Geneva. Dr. MacNaughton Jones and his colleagues appear to think that they play a trump card when they call attention to the fact that the invitation was presented at Amsterdam by Dr. Robert Barnes. Still, men have an awkward way of looking at the true inwardness of things, and not at mere formulæ; and the result of that honest examination of the situation was the remonstrances from America and by no means cryptic hints from many other quarters, as to the need for a working arrangement with the Obstetrical Society. These hints were ignored until it was discovered that arrangements which could be made apparently to succeed at meetings in foreign capitals would not suit a congress held in London. Hence, obviously, the too belated proposal of coöperation made to the Obstetrical Society. In some journals which have been sent to me I regret to read injurious references to the action of the lecturers and teachers of obstetrics and gynæcology of the London medical schools. Epithets are not arguments which tend to conciliation. The unanimity of these teachers and their dignified expression of refusal to take part in a congress for which important arrangements had been already completed is an impressive fact which should form food for reflection, not a subject for reviling and sarcastic levities.

The question still remains: Can anything yet be done to put British gynæcology in its proper place in the opinion of the specialists of Europe and America, and to bring about some time the holding of a creditably successful International Congress in England? As a provincial specialist knowing the opinions of many men similarly situated, who, like myself, are not conscious of envy or jealousy even towards London colleagues, I would submit that the time has long gone by when London societies could justly arrogate to themselves the right to speak for British gynæcology. Any truly representative body must have a wider basis. To be practical I would suggest something like the following, if the game be generally thought worth the candle. Let the honorary secretaries of all the existing Societies of Obstetrics and Gynæcology in the United Kingdom of Great Britain and Ireland form a convening committee to start with. It should be the function of this committee to form a grand committee of the members of these societies. Each of the societies could send a sufficient number of delegates to a meeting in London or elsewhere, as might be agreed, to elect an executive committee, or themselves to form an executive committee, to deal with the question of an international congress and other matters. If from this movement a great comprehensive society, on the model of the German Gynæcological Society, were to take shape and development so much the better. It would be premature to suggest further details. If among the specialists in obstetrics and gynæcology of the United Kingdom there is sufficient goodwill the way will be found.

I am, Sirs, yours faithfully,

Manchester, June 30th, 1900. W. J. SINCLAIR.

"THE RELATIONSHIP OF MALARIA AND THE MOSQUITO."

To the Editors of THE LANCET.

SIRS,—The interesting letter by Dr. Dauber in THE LANCET of June 23rd (p. 1834) requires a rather full reply, as his opinions are certainly shared by a considerable number of medical men, both in this country and the tropics. I trust that you can allow me sufficient space to deal with his arguments in some detail.

While admitting that "mosquitoes may frequently act as alternative or intermediary [he means *definitive*] hosts with man of the malaria parasite," he demurs to the dogma that the bite of *Anopheles* constitutes the only mode of infection. I should say at once that no one can as yet be *absolutely certain* that there is no other mode of infection. We differ only as to the degree of probability which attaches to the hypothesis that there is another mode of infection. Koch and the Italians think that there is very little probability at all in favour of this view. Manson and Laveran are more inclined towards it. Your correspondent, with many others, tends to the other extreme and still believes in the miasma *plus* the mosquito. Speaking for myself I must confess that I think it extremely unlikely that there is another route of infection besides the bite of the mosquito; I have met neither with facts nor with what appear to me to be sound arguments in favour of such a thing; while there are many extremely cogent arguments against it. At the same time I keep a perfectly open mind on the subject, and am quite willing to be converted by any good evidence which may be adduced in the future.

No one accustomed to sifting scientific evidence will, I fancy, be quite prepared to accept Dr. Dauber's. In order definitely to prove that a given outbreak of fever is not due to *Anopheles* it must clearly be shown that *Anopheles* were not present when the original infections occurred. It must also be certain that the cases of fever under consideration were first infections and not relapses; and, of course, that the disease was really malarial fever is a point which must have been established by microscopical methods before the case can be admitted into court. But your correspondent gives no precise details of this nature. He talks about "fever" and "swarms of mosquitoes" without specifying what fever and what mosquitoes. His instances appear to be based on very indefinite information. Even if his facts be admitted they often point in just the opposite direction to what he supposes, while he himself seems to think that popular impressions carry the force of experimental evidence. I will take his instances in the order in which he gives them. He quotes in support of his opinions a medical work in which "a chill, a wetting, the turning over of virgin soil, exposure, and fatigue are credited with causing fever as well as direct infection from mosquitoes." I hope that this medical work did not intend to imply that a malarial infection, a parasitic invasion, can be caused by a chill. One might as well say that round worms are produced by a chill. What I suppose the medical work really means is that a *relapse* may be precipitated by a chill, by fatigue, and so on—a thing with which we are familiar in many diseases and which has nothing to do with the original entry of the infecting parasites. I will deal later with the case of the "virgin soil." Dr. Dauber then proceeds to quote a writer in the *Times* who talks about the insalubrity of Pretoria and thinks that "the miasmas at sunset, attended by a bone-piercing cold, are especially dangerous." This is no evidence. The writer in the *Times*, voicing the popular idea, may believe in miasmas if he likes; but this does not go far to prove that they exist. What investigations has the writer in the *Times* made on the subject? As a matter of fact he seems to think that the miasmas arise from the "filthy habits of the genuine Boer"—a novel source for malaria. The writer in the *Times* may be Brown, Jones, or Robinson—the question is whether he knows anything at all about the matter. Next, your correspondent discusses the immunity which is supposed to be enjoyed by those who sleep at some height above the ground. He refuses to accept the explanation given by the theory that the mosquito is "a low flyer," because his own experience is opposed to this theory. Here we have a simple clashing of observation. The Italian observers—as well as myself—who have all been making a special study of mosquitoes for years, are quite convinced that mosquitoes often do prefer ground-floors to upper storeys. Apart from this, the question whether such immunity really exists is open to discussion. I fear we can hardly accept the authority—which Dr. Dauber quotes—of Kingsley's novel of "Westward Ho." If, as your correspondent adds, landing-parties in the navy "are instructed to make elevated platforms with boughs on which to sleep, and are supplied with axes for the purpose," this proves nothing. I have never known Government medical regulations cited as being medical authority of any value. Personally I should prefer the authority of "Westward Ho."

In British Guiana, Dr. Dauber says, "Young men freshly arrived from the temperate climates, although they would be bitten more voraciously than the older residents, yet were not very liable to malarial fever until they had resided about a year in the country." This is a most unfortunate argument, because, like the Irishman's pig, it goes in a precisely opposite direction to that which is intended. Obviously the longer a man has resided in a

mosquito country the greater the number of mosquito bites from which he has suffered from the commencement of his stay there, and the greater therefore his chances of having been bitten by an infected mosquito. If only one mosquito in a thousand is infected (which is quite possible), a man may well reside a year in a place before meeting his fate. On the other hand, if the poison lies in the soil, why are not these young men all infected the moment they land? Dr. Dauber thinks that "fresh arrivals bitten from head to foot and living amongst men constantly down with fever" should become infected at once; he again omits to note whether he refers to the bites of *Culex* or *Anopheles*.

A number of instances are given where malarial fever was supposed to be due to turning up "virgin soil." These are of the usual indefinite kind. Was the fever malarial fever (and not, for instance, ankylostomiasis—which is an earth-borne disease, and is frequently mistaken for malaria)? Were the cases original infections and not relapses due to chill and fatigue caused by the labour? Were *Anopheles* certainly absent? These questions must be answered before the evidence is worth a straw. It is no use quoting Mark Twain and describing public impressions at the time. Dr. Dauber adds that while the troops engaged in excavations at Hong-Kong suffered greatly from malaria the "Argyll and Sutherland Highlanders also stationed there at the same time, who were not engaged in the excavation works, did not suffer similarly"; and he continues with the remark that "It is hard to believe that the mosquitoes could make a differential diagnosis between the Engineers and the Highlanders." Certainly this would be hard to believe if the Engineers and the Highlanders lived intermixed in the same barracks and slept in the same rooms. Are we to understand that this was the case? If not, where is the point of the remark? Everyone who knows anything of the matter is aware that there may be crowds of *Anopheles* in one house or barrack and few in the next (as at the Wilberforce barracks in Sierra Leone), or none at all a few hundred yards away. Your correspondent seems to imagine that mosquitoes are a uniformly diffused entity like a gas. It is quite possible that the Engineers lived in sheds or houses infested with *Anopheles*, while the Highlanders did not; at least this point must be settled before the instance is of any value at all as evidence. Dr. Dauber's reference to the general paucity of mosquitoes at Hong-Kong is rather unfortunate in view of the recent find of *Anopheles* there by Mr. Ladds. His attempt to dispose of their breeding pools by quoting the words of an Engineer officer who says that no pools remain after heavy rain, is also scarcely what we call scientific evidence nowadays, and is moreover summarily discredited by the work of Mr. Ladds—to which I refer your correspondent. Then he quotes an officer of the Ashanti expedition of 1873-74 to the effect that in those parts "there is any amount of malarial fever but practically no mosquitoes." Really, this is the old old story. It was like the story I was told—and by a medical man too—that there are no mosquitoes in Sierra Leone! During the last few months I have heard the same absurd statement about every town on the West Coast of Africa, the fact being, of course, that many people never observe anything at all, not even a mosquito bite. Your correspondent next relates the case of a hospital ship, the *Simoon*, on which after a time malarial fever became endemic, infecting, for instance, the wounded returning from the expedition just mentioned. The *Simoon* was condemned and replaced by the *Victor Emmanuel* which remained healthy. "If mosquitoes were the means of conveying infection in the first vessel," exclaims Dr. Dauber, "why were they not also in the second?" Possibly for the simple reason that there were no mosquitoes, or at least no *Anopheles*, in the second vessel. It must surely be remembered that *Anopheles*, like many other insects, have their seasons. Moreover, the same case would tell equally against the idea that the malaria lay in the air of the locality in which the two vessels were stationed.

Next we hear the case of H.M.S. *Active*, from which a punitive expedition was sent up the Niger in a steamer. The expedition remained quite well until it returned to the *Active*, which then put to sea. Within a week after she had put to sea "nearly all of those who had taken part in the expedition were down with fever of a severe type." What point is there in this story? Dr. Dauber seems to forget that in malarial fever, as in other diseases, there is an incubation period—lasting up to three weeks. I suppose that the members of the expedition were infected before they returned to the *Active* and that the disease appeared in them some time afterwards—that is all. The case appears simple enough. Unless, indeed, the members of the expedition brought some freshly turned virgin soil with them I do not see that it applies to the question at issue. How explain it better on the supposition that malaria exists in the ground, for instance?

The disappearance of malarial fever in England affords your correspondent another text—since mosquitoes, even *Anopheles clariger*, remain in England (which is true) how is it that the fever has disappeared so entirely? Precisely, and the answer gives perhaps one of the most serious blows to the soil theory. It is very well to talk largely and vaguely of the effects of drainage of the soil in England, but let us inquire more particularly. Are we to suppose that every square yard of soil in England has been drained? I suppose that there are a *few* ill-drained fields and ditches still remaining even in England. If so, why have the parasites which by hypothesis live in such places gone so completely? Surely there must be a patch of soil here and there which still contains its hordes of malaria germs. Surely a chance labourer may now and then happen to dig in such spots of ground, and should therefore contract the disease. It will not do; if the germ ever lived in British soil it is most highly improbable that it could have vanished so rapidly and completely as it has vanished. On the other hand, the mosquito theory affords a simple explanation of the phenomenon. According to it both *Anopheles* and malaria cases must be in sufficient numbers for the former to have a reasonable chance of becoming infected from the latter. But what has happened? The fever cases have been consistently reduced with quinine, while simultaneously the *Anopheles* have been reduced by drainage. The chances are now thousands to one against an *Anopheles* ever biting a person suffering from malarial fever in England—more probably millions to one. But I will not anticipate some important researches which I hope will shortly be published on the subject.

Your correspondent does not think that the mosquito theory sufficiently explains the connexion of malaria with rainy seasons or rank vegetation. That is a mere matter of opinion. He says that though mosquitoes teem up the river Parana in South Africa—mosquitoes *probably* of all kinds—yet fever is little prevalent there. This is not definite enough: we must know for certain that *Anopheles* do not exist at the exact spot where malaria prevails before the evidence has any validity. He avers that an offshore wind can induce an outbreak of malarial fever in vessels lying 50 miles from land. The records of such cases would be interesting ones, and I hope that your correspondent will find the time to publish them. Until then we must be excused if we scarcely admit with Dr. Dauber that such instances "prove conclusively that the atmosphere has some intimate connexion with the disease." He adds that he finds it difficult to explain on the mosquito theory how "it is only the *land* breeze which does the mischief." Admitting the statement (which may, however, be doubted) I suppose it may be explained on the ground that the land breeze is more likely to carry the mosquitoes from the land to the ship than is a wind in the opposite direction. Lastly, he says that the paludal, miasmatic, and telluric conditions are still believed in in the British navy. I do not doubt it; they will doubtless be believed in by the British navy for the next hundred years.

I have now examined, I think, all of Dr. Dauber's instances and arguments and have done so at such length chiefly because similar views are continually being expressed by medical men in spite of all refutations. Such views appear to me to have a certain old-world flavour about them—smacking of the pleasant days when direct observation and experiment were not yet necessary in medical science, when we based our conclusions on obsolete text-books, hearsay evidence, and travellers' tales, and when a medical man could gain a reputation in tropical medicine on the strength of possessing a stuffed crocodile in his consulting-room. I do not mean to say that all such views are wrong, but certainly all of them are not right, and what I wish to impress is that they have little value as scientific evidence in the sense in which we now understand it. If the malarial miasma really exists its existence must be demonstrated not by citations of popular beliefs but by exact scientific work. Meantime our position is quite clear. Dr. Dauber blames us for inculcating the destruction of mosquitoes and so on without reference to precautions against the miasma. But this is quite logical. We are sure that *Anopheles* communicate the

disease and we therefore devise measures against them. We know nothing for certain about other modes of infection and we therefore refuse to advise precautions against them. We cannot accept popular beliefs as being in any way equivalent to scientific demonstrations.

As a matter of fact, your correspondent has quite overlooked (although he nearly touches it once) the train of argument which is most fatal to the miasma hypothesis—I mean the arguments based on comparative parasitology. We are now familiar with a very large number of animal parasites and we recognise that their development and life-history proceed in accordance with certain general laws. Those which, like the parasites of malaria, pass between alternate hosts, possess a complicated development which enables them to do so. But there their development ceases. They do not also possess properties or organs which enable them to live in half-a-dozen other media as well. The life-cycle of the parasite of malaria is already complete according to these biological laws, and we have no justification for supposing that it possesses other life-cycles fitting it to live in the soil, or in the marsh, or in the air. We may as well suppose the same thing of tapeworms or trichinæ. The idea that any parasitic organism breeds indefinitely, say in the soil of an uninhabited locality, ready to pounce out upon the first man who happens to dig there, is a zoological absurdity. Moreover, the method of inoculation which nature has discovered for the malaria parasite is so simple and yet efficacious that those who have studied the wonderful arrangements by which it is brought about are not disposed to look with much favour on the clumsy ideas of the miasma and the telluric emanation. I am, Sirs, yours faithfully,

Liverpool, July 1st, 1900. RONALD ROSS.

P.S.—Dr. Dauber's reference to the Parana river region, where mosquitoes "teem in their millions and billions" and yet malaria is so uncommon, seems more unfortunate than I suspected at first. I wrote on the subject to Mr. F. V. Theobald, of the British Museum, who is collecting the known information about mosquitoes, and have just received the reply which he was kind enough to send me. After mentioning the species of *Anopheles* found in that region, he adds: "This is all I can recall. It would thus seem that *Anopheles* are not common in those parts of South America—very different to what we find in the Malay Peninsula, West Coast of Africa, India, &c."

"THE NATIONALISATION OF TRINITY COLLEGE, DUBLIN."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of June 30th a correspondent over the signature "A.M., M.D., Dub. University" writes: "Although I am unable to discern that the columns of a medical journal are the proper arena for the discussion of the Irish Catholic University question I feel bound to contest your conclusion as set forth in an annotation in THE LANCET of June 23rd, p. 1815, that the proposal to nationalise Trinity College is 'as useless as it is impracticable.'" Now if your correspondent will look again at the annotation he refers to he will see it is entitled "Irish University Education"; that is, the paragraph deals with the question of Irish University education as a whole and not merely with that portion in which Roman Catholics are specially interested. Further, in the discussion of university questions whether they affect the whole or only a portion of the inhabitants of a country, your readers must admit that the interests of the medical faculties, which now constitute such large and important departments of all universities, demand most careful consideration; and where can questions affecting these medical departments be more appropriately discussed than in a medical journal of such great influence and with such a wide circulation as THE LANCET?

Your correspondent takes a very narrow view as to what is meant by the nationalisation of Trinity College, Dublin. He defines it "as the complete de-sectarianising of it"; and he thinks the whole question would be settled if some Government would "proceed to eradicate all traces of sectarianism from the University of Dublin. To effect this latter purpose it would be essential to transfer in its entirety the Divinity school of Trinity College to the outside custody of the Church of Ireland, with a grant to that Church equivalent to that now made to the sectarian education at Maynooth and elsewhere." No doubt, from a Trinity College point of view, this solution of the Irish University question would be an admirable one; that is, Trinity College would continue as it is with the exception that the Divinity school would be transferred to the care of the Church of Ireland and would receive a grant equal to that of Maynooth. In other words, Ireland would possess a new Divinity school for a minority of Irishmen endowed as largely as Maynooth which educates theologically the clergy who minister to the wants of three-fourths of the inhabitants of Ireland. The Divinity school, separated from Trinity College, would thus become one of the most richly endowed theological institutions in the world. Would the British tax-payer calmly submit to pay as much for the education of the clergy for a population of 600,830 members of the Church of Ireland as for 3,549,745 Roman Catholics? Or, to put it in another way, is the theological training of the clergy of 12·8 per cent. of the population of Ireland to cost as much as that of 75·4 per cent.?

But, Sirs, does your correspondent imagine that if Trinity College was desectarianised in the way he suggests the Irish University question would be at all settled? As everyone knows, it is a cardinal doctrine of the Roman Catholic Church that its members accept the teaching of their ecclesiastics as to what is dangerous to faith and morals. The removal of the Divinity school from Trinity College would still leave what your correspondent describes as a "thick Protestant atmosphere" in that place which the Catholic Church teaches is inimical to the faith and morals of her sons, and hence Trinity College would be as much as ever under the ban of that powerful religious organisation.

There is, however, another and most important factor which your correspondent entirely ignores and which will have to be considered in any proposed settlement of Irish university education. If Trinity College is nationalised, not merely in the limited sense of having its Divinity school removed, and becomes a secular institution, how will this change meet the existing state of affairs as it concerns various Colleges and educational centres in Ireland outside Trinity College, what will then be the position of the Queen's Colleges of Belfast, Cork, and Galway, of Magee College, Derry, and of Victoria College, Belfast? How are these great educational institutions to be dealt with in this national university? Are they simply to send their students to Trinity College, Dublin, and close up their halls, or are they to remain as at present, let their students go to Trinity College, Dublin, for examination, and have no share or voice on the governing senate of this new national university? Is the great medical school of Belfast, one of the largest in Ireland, situated in a rapidly increasing city whose population now exceeds that of Dublin, to be quietly absorbed and take a subordinate position in this new national university? Does your correspondent really imagine that in these days of decentralisation, with new universities such as the Victoria, Birmingham, the Welsh, and the London, the hands of the clock are to be put back, and in Ireland everything of an educational nature is to be controlled from Trinity College? Is that institution to be the only place of collegiate education for young Irishmen, and, if so, how are the institutions already existing, such as the Queen's Colleges, Magee College, and Victoria College to stand related to the one national university? Would Scotchmen submit to have one university for the whole of their country situated in Edinburgh? Has not England revolted against university centralisation in London?

If Trinity College is to be really and truly nationalised something more than its mere "de-sectarianisation" will have to be attempted. 1. A truly national university must be so constituted that, as your correspondent writes, its governing body, professors, fellows, and officials, as at present, are almost universally of one religious persuasion. 2. Irish Roman Catholics and the Presbyterians of Ulster must get a fair share in the governing senate, as well as in other matters pertaining to the administration of the new university. 3. Arrangements will have to be made for the due recognition and adequate representation on the new national university of the various colleges and educational institutions outside Trinity College in the provinces of Ireland. 4. A truly national university must meet the requirements and aspirations not of one sex alone, and hence all its degrees and honours must be open alike to women as to men. (Trinity College, in spite of frequent demands, has not advanced even this length, none of its degrees being open to women.)

Now, Sirs, I have attempted to lay down certain conditions which I think in fairness all will agree must be fulfilled if a university in Ireland is to be a truly national one. May I ask will the authorities of Trinity College allow such modifications of that old and venerated educational institution? And if they refused (as it is certain they would) would any of our political parties in the State for one moment attempt to force them to accept such radical changes in the arrangement and government of their College? As a consequence I am compelled to agree with your conclusion that "the proposal to nationalise Trinity College is therefore as useless as it is impracticable."

I am, Sirs, yours faithfully,

July 2nd, 1900. IRISH GRADUATE.

"LYMPHATIC LEUKÆMIA."

To the Editors of THE LANCET.

SIRS,—I am much indebted to Mr. J. Charlton Briscoe for his courteous criticism of my case. The diagnosis was arrived at not solely from an examination of the blood, but from a careful consideration of all the symptoms. The differential diagnosis between acute Bright's disease, tuberculous peritonitis, ulcerative endocarditis, and other possible causes was carefully discussed. There was no enlargement of the lymphatic glands but the dulness in the left hypochondriac and adjacent regions was probably splenic in origin. Hyperplasia of the lymphatic glands is by no means a constant symptom in lymphocythæmia. Muir states that it may be slight or even absent and Osler expressly mentions that in only four out of his series of 26 cases were the glands enlarged. Enlargement of the glands is much more common in lymphadenoma, a disease of an essentially different character. Leucocytosis is usually met with in the lymphatic form of leucocythæmia, but the number of leucocytes fluctuates greatly from time to time and cases are recorded in which it fell to normal. Although in my case the leucocytes were not absolutely in excess they were relatively so compared with the erythrocytes. The ratio before treatment was 1 in 493, whilst after treatment it fell to 1 in 669. I quite admit that in lymphatic leukæmia a prominent feature is the increase of uninucleated leucocytes, lymphocytes, and slightly larger corpuscles such as are normally present in the blood. In my case the report stated that of the leucocytes 43 per cent. were small cells having a single pale nucleus, but so much doubt evidently existed as to their real nature that the information was of no practical value as an aid to diagnosis. With a patient in a critical condition one cannot afford to suspend treatment whilst experts are discussing the value of methylene blue as a staining agent or considering whether certain appearances are or are not "artefacts." In this case there was some pathological condition of the hæmatopoietic tissues, and whether we choose to label it leukæmia or call it by some similar and perhaps equally indefinite name is a matter of little importance. The essential points are that there was a considerable effusion of fluid into the abdomen, that the patient was sinking rapidly, and that she was restored to safety by the performance by Mr. Walter Spencer of an operation for establishing a collateral circulation.

I am, Sirs, yours faithfully,

Welbeck-street, W., July 2nd, 1900. WILLIAM MURRELL.

To the Editors of THE LANCET.

SIRS,—As Mr. Briscoe's letter in THE LANCET of June 30th with regard to Dr. Murrell's case of "lymphocythæmia" directly concerns myself, I hope you will spare me a short space to reply to that portion which refers to the examination of the blood; any questions as to the clinical diagnosis pass beyond my domain. I think that if Mr. Briscoe will refer to the wording of my reports (and these Dr. Murrell has given *in extenso* and has placed in inverted commas), he will recognise that I was in considerable doubt as to the true nature of the cells which he thinks were possibly lymphocytes. Since reading his letter I have again examined the specimen upon which my first report was founded and find no reason to alter my opinion. I am sure that he will agree that the lymphocyte is the least variable of the leucocytes, and that anyone at all acquainted with blood examinations should make the fewest mistakes when they are the cells under consideration. If I may be excused a little pride, may I express my satisfaction that the arrangements I have made in our clinical laboratory are so soon to bear fruit that will extend beyond our walls? For by our arrangements it is possible to exclude the personal element from a pathological diagnosis entirely. If Mr. Briscoe will favour me with a call at the laboratory he will not only be able to form his own opinion upon the cells in the original blood-film, but also will aid in bringing about that agreement as to the nomenclature of the different varieties of colourless cells found in the blood which is so much needed.

I am, Sirs, yours faithfully,

W. S. LAZARUS-BARLOW.

Clinical Laboratory, Westminster Hospital, July 2nd, 1900.

"THE POSITION OF THE GENERAL MEDICAL COUNCIL WITH RESPECT TO THE MIDWIVES BILL."

To the Editors of THE LANCET.

SIRS,—With reference to the letter of the President of the General Medical Council which appears in THE LANCET of June 30th permit me to inform your readers that the promoters of the Midwives Bill declined to place upon the order paper the amendment to which he calls your attention, or any other amendment which might lay them open to a charge of breach of faith with the General Medical Council.

I am, Sirs, yours faithfully,

F. R. HUMPHREYS,

Honorary Secretary of the Midwives Bill Committee.

Buckingham-street, Strand, W.C., July nd, 1900.

THE OPERATIVE TREATMENT OF PULMONARY TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of June 23rd Mr. Foster Palmer, urging "early operation in cases of undoubted tubercle of the lung," proclaims that medical treatment of this disease is "vague, empirical, and uncertain," and that surgery alone "offers a really good prospect of success." He argues that when any other organ of the human body is attacked by the tubercle bacillus extirpation is the usual and successful remedy; and straightway he apparently concludes that when the lung becomes tuberculous a similar result must follow a similar operation. It is to be hoped that the future surgery of the lungs will be placed on a far more satisfactory pathological basis. For is it not certain that in almost all cases of adult pulmonary tuberculosis the affection of the lung is secondary to tuberculosis of some other tissue, most frequently to that of the bronchial lymphatic glands? And consequently will not surgical operations on the lung, such as Mr. Palmer describes, prove as useless as if he were to remove the tuberculous index-finger of a patient already suffering from tuberculosis of the wrist-joint?

I am, Sirs, yours faithfully,

Switzerland, June 25th, 1900. CHARLES S. MYERS.

"THE CAUSE OF CARIES OF THE TEETH."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of June 30th there appeared an annotation on The Cause of Caries of the Teeth in which my theory is characterised as "highly improbable." Yet as far as I am aware there has been *no* case recorded either of rapid and extensive caries of the teeth or of complete freedom from the disease which does not lend support to the theory. The writer says: "That the structure of the tooth plays a most important part in the resistance to caries is within the knowledge of a dental practitioner with even a small experience." This current assumption is repudiated by some of our most acute observers and experienced practitioners (Dr. Black, Mr. Leon Williams, and others). At one time I, too, shared this prevalent belief. When a tooth is soft and non-resistant to an instrument at a part which does not appear to be attacked by caries this condition is usually brought about in the following way. In the mannitic fermentation of sugar the mannite or gum formed clings to the enamel and together with the acids generated in the fermentation gives rise to a general decalcification of the enamel which is not pigmented nor sharply localised and so escapes observation. In the crevices of such teeth

amylaceous and other food particles are apt to lodge. In these situations the caries being further advanced, definitely located, and associated with pigmentation, is easily and distinctly observable.

Perhaps the above explanation may help my critic to reconsider his statement that "the true cause of caries has yet to be discovered and is not quite so simple as Dr. Wallace would lead us to believe." Why not? When the true cause of anything is discovered it generally appears simple. I think, too, it is hardly correct to say that I have "advanced an *ingenious* theory" which is admittedly "so simple." The seriousness and importance of the subject demand that the theory should be put to the test of direct observation rather than be subjected to destructive criticism founded merely on current beliefs.

My critic thinks that "there is something, so far not recognised or understood, which plays a most important part in the liability of teeth to be attacked by caries." If he will only test the theory (as any medical man or dentist can easily do) in a few typical cases of extensive and rapid caries and in a few cases of complete or almost complete freedom from it, I think he will recognise and understand the something which plays that most important part.

I am, Sirs, yours faithfully,

Kingston-on-Thames, July 2nd, 1900. J. SIM WALLACE.

CHELTINE FOODS.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of June 30th you published a letter from which it appears that the makers of these foods now claim that the starch contained in them has been so modified that it is not convertible into diabetic sugar during digestion. Will you permit me to point out that by the action of the amylolytic enzymes of the digestive secretions the poly-saccharids—starch and the dextrins—are not converted into diabetic sugar or dextrose, but into the di-saccharid maltose; so that the claim put forward for the Cheltine foods might equally be made for any amylaceous food. Developing the makers' thesis a stage further one would be led to conclude, in opposition to all experience, that starch is a suitable food for diabetic patients. I am, Sirs, your faithfully,

Cambridge, July 4th, 1900. W. E. DIXON.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Monsoon.—The Unparalleled Extent of the Famine.—Diminished Plague Figures.—The Extermination of Rats by Disease.—Calcium Chloride in Plague Inoculation.—The Standardisation of Haffkine's Prophylactic.—Enteric Fever in the British Army in India.—Rabies.

THE monsoon has reached India and promises a normal amount of rainfall. The conditions are favourable in the west as well as in the east, and anxiety as to the prospects in the famine districts has thus been immensely relieved. Anything like immediate improvement, however, in the numbers under famine relief is hardly to be expected. At the present time there are nearly 6,000,000 persons being aided by charity and the areas affected in the South Punjab, East Sind, Rajputana, Central India, Berar, the Central Provinces, Deccan, Bombay coast districts, Kathiawar, and Gujerat, cover between 600,000 and 700,000 square miles.

The famine of 1876-78 surpassed every previous one in intensity, but the present one is far worse both in severity and extent. The drought of 1899 was unique; not only has the recent drought extended over a wider area, but the tracts affected have been more completely dried up.

With the marked diminution in the plague mortality all interest in and anxiety about it seem to have subsided. For the week ending June 9th only 417 deaths were recorded for the whole of India. Of these Bombay city returned 131 (this is probably much under the correct figures), Karachi 12, Bombay Presidency 57, Calcutta 138, Bengal Presidency 54, and Aden 8. Bombay city continues to return a very high death-rate. It is said that illness of every description abounds, but allowing for a certain amount of cholera, small-pox, and unusual fatality in other diseases the death-rate of over 70 per 1000 and the excess of 547 in the total mortality are too high, and can only be explained by a continuance of the plague epidemic. I am sorry to say that the number of weekly inoculations has much decreased. The heightened birth-rate suggests that the women have not according to custom left the city for their native country. This is probably due to the famine.

Reports from the populous districts in and around Sylhet show that blackwater fever has been assuming the proportions almost of an epidemic. Although it is not so rapid in its fatal effects as plague, very few cases are said to recover. Treatment seems to be of little avail.

The extermination of rats is a difficult work in India owing to the opposition of the natives, so that the experiments recently conducted on the European continent are of especial interest. The object aimed at was the introduction into the rat community of a fatal form of disease which was at the same time harmless to human beings. This has apparently been very successfully accomplished. Into a Paris sewer were introduced 200 healthy rats, and pieces of bread impregnated with the virus of a disease which had previously been proved very fatal to rats were scattered about. Other food was also supplied. In eight days the epidemic broke out and dead bodies were found in considerable numbers. On the twenty-eighth day only eight out of the 200 rats remained alive. The experiment was repeated in Hamburg, Copenhagen, and elsewhere with equally good results. It was found also that even if the poisoned food was laid in open places, such as grain warehouses, either a disappearance of the rats occurred or a great diminution in their number took place. In view of the probable spread of plague by rats it may almost be hoped that this new epidemic will spread all through the rat population in every part of the world. It is by no means certain, however, that rats are the chief means of the dissemination of this disease.

An interesting report on the Haffkine prophylactic has been submitted by Captain Stevenson, I.M.S. Amongst other points he refers to the effect of calcium chloride on the febrile reaction and shows that given both before and after the inoculations it has a good effect. The best results were obtained when the calcium chloride was given a few days before the inoculation as well as after it. Yersin's serum was tried at Mauritius, but the reports were unfavourable.

It is satisfactory to learn that attempts are now being made in the Plague Research Laboratory, Bombay, to standardise Haffkine's prophylactic. Improvements have been effected in the manufacture of the fluid, and since occupying the new premises at Parel no less than 530 brews, or 160,000 doses, have been tested and all were found to be sterile.

The increasing prevalence of enteric fever in India as far as the British army is concerned is shown by the following table:—

Year.	Admissions per 1000 strength.	Year.	Admissions per 1000 strength.
1890	18·5	1895	26·3
1891	20·4	1896	25·5
1892	22·1	1897	32·4
1893	30·1	1898	36·9
1894	20·9		

In spite of every attention to the water-supply and sanitation in the cantonments enteric fever has largely increased. The case death-rate is still very high also, being 24 per cent. It is obvious that the water-supply is not the main or the most important vehicle for the infection. In some places the water is purified, in others it is left untouched, and at some stations there was more fever after purification than before. Boiled water is tasteless and not always cool, and Tommy Atkins will not drink it. The immediate question is not why enteric fever should be prevalent, but why its occurrence has so greatly increased during the past few years. The admission rate for officers in 1898 was no less than 40 per 1000, as against 34 per 1000 in the previous year. This rate is higher than for non-commissioned officers and men, and it shows that the theory of the men contracting enteric fever in the bazaars requires considerable modification.

As the Pasteur Institute at Kasauli is not yet in working order it has been found necessary to send four more soldiers and a child to the Pasteur Institute at Paris.

June 16th.

THE UNIVERSAL EXHIBITION AT PARIS.

(FROM OUR SPECIAL CORRESPONDENT.)

Russian Temperance Reform and the Pavilion of the State Monopoly of Alcohol.

AT this moment, when so many international congresses are meeting in Paris to discuss various methods and phases of social reform, there is one exhibit that specially commends itself to those who seek to promote the physical and moral wellbeing of the masses. Throughout the northern half of Europe the prevalence of intemperance is generally considered one of the greatest obstacles to social reform. So great indeed is this evil that it has led to what many would qualify as an exaggerated reaction; one which, for the sake of abolishing that which is unreasonable would also prohibit that which is reasonable, and thus the intemperance of over-indulgence is met by an intemperate desire to enforce total abstinence. But if this be the experience of such countries as Great Britain and the United States of America what must be the state of such a country as Russia? There the vast majority of the population is composed of a simple-minded, good-natured, but totally ignorant peasantry. In their misdt, like a swarm of vampires, there were innumerable dramshop keepers where alcohol insufficiently rectified and of the coarsest description was served out to poor people who had not sufficient knowledge to know that they were drinking what was little better than rank poison. The diseases due to alcoholism were, therefore, widespread, entailing the loss of moral self-control. Clothes, furniture, homesteads, future harvests, implements and cattle, anything and everything that the dram-seller consented to accept as a sufficient pledge was given or signed over for the sake of alcohol. The people were bartering themselves away into a condition of servitude, indeed of slavery, to the dram-seller. Such was the state of ruin induced by alcohol that there were many places where the taxes remained unpaid and no amount of severity on the part of the tax-collectors could extract from the peasantry what they no longer possessed. This financial ruin, of course, also entailed physical and moral degradation. Fortunately the Russian Government, as an autocracy, was better able to deal with the problem than a country where the Government depends on electors who are in a large measure controlled or influenced by public-house keepers, brewers, and distillers. The Russian Government also, and very wisely, deemed that it was its duty to deal with things as they are and not according to the conceptions of some as yet very distant ideal. It had not to decide whether, in the abstract, total abstinence from alcohol was best for the human race, but with the very obvious fact that there are hardly any total abstainers in Russia. Therefore, as people will drink, the practical thing to do is to see that what they drink shall be as free as possible from injurious ingredients. For this purpose a system of inspectorship would have been totally inadequate. The only solution was to create a State monopoly in alcohol. Of course, a great deal has been said against State monopolies, and economists, especially of the older or Manchester school, are loud in their advocacy of the advantages of competition. The problem therefore consisted in effecting a compromise, of retaining some of the advantages of competition in combination with the advantages of a State monopoly. It is the results of this experiment carried out on a gigantic scale which can be studied at the Exhibition in the Pavilion of the Russian Régie of Alcohol situated close to and on the western side of the Eiffel Tower.

M. Gennadi Kartzoff, director of this Pavilion, very courteously placed himself at my disposal and lengthily explained every detail. Indeed, he also remarked that so much had been written in England against Russia that he was especially gratified to find there were English journalists who were willing to study what efforts at reform had been made in his country. It was after the famine of 1891 that the Emperor Alexander III. felt that it was absolutely necessary to attempt a radical reform and in 1894 it was decided to establish a monopoly of alcohol as an experiment. The provinces of Perm, Oufa, Orenburg, and Samara were selected for this purpose. The success was of so decisive a character that the monopoly has been extended to 25 other provinces in the south, south-west, north-west, and in the kingdom of Poland. Perhaps the most remarkable and original feature of the scheme is that private distilleries are not abolished. The State does not monopolise the manufacture of alcohol, it only monopolises the sale of alcohol. Formerly the distiller dealt directly with the dramshop keepers. He had to send out commercial travellers, there were occasional bad debts, and it was difficult to foresee how much alcohol would be sold; in a word, he had to face all the risks common to such undertakings. Now, on the contrary, the Government informs the distiller how much alcohol will be required during the forthcoming year. The distiller is certain to be paid for the same; he has not to deal with a multitude of more or less doubtful customers and he escapes from the risk of producing too much or too little. On the other hand, he still competes with other distillers so as to secure large orders from the one customer, the State. Most of the alcohol bought by the State is the raw unrectified product of distillation. A very ingenious sealed meter is provided by the State for the use of distillers. A large float in the cylinder which receives the liquid indicates and registers its alcoholic strength. From this cylinder the alcohol flows into a drum which revolves and empties itself when weighed down by the filling of one of its partitions. Thus quantity and strength are automatically registered. The alcohol is then conveyed from the private distillery to the State depôt, where it is analysed by the Savalle test, with sulphuric acid for amylic alcohol and with fuchsinosulphuric for aldehydes or with aniline for furfurol and with permanganate of potassium to determine its degree of oxidation. The whole of this process is shown at the Pavilion which, on a reduced scale, is the exact reproduction of a Russian State depôt for receiving, rectifying, and for the sale of, alcohol. The water, also, used for diluting the alcohol, is analysed, and according to the result of this analysis is treated chemically or distilled so that the water shall be uniform in its composition and purity. In all cases the water is absolutely sterilised.

A great point is made of the fact that whatever may be done with the alcohol it is never touched by the human hand and one source of contamination is thus done away with. The pipes and the soldering of the pipes that serve to convey the alcohol from vat to vat or from filter to filter are exhibited, and the attention of the visitor is drawn to this important consideration. By a syphon arrangement and an air-pump the alcohol is raised from the ground floor to the second floor, from thence by gravitation it can flow through the filters, &c. There is a special apparatus with an electric motor to ensure the satisfactory mixing of the alcohol with water, and it is then kept in a reservoir till the time comes for transforming it into brandy. The brandy is then raised into a cylinder where pressure is brought to bear so that it can pass first through four charcoal filters. Then so as to remove any particles of charcoal it is passed through two sand filters. As this process causes some slight loss of alcoholic strength the liquid, now perfectly clear, is collected in another vat where it is brought up to its normal strength, generally 40 degrees. All this is done mechanically, and so also is the bottling which now ensues. The dirty bottles are placed on a wheel the lower portion of which is submerged in a vat of water. The weight of the bottles as they are placed on one side of this wheel causes it to revolve, bringing up on the opposite side of the wheel the bottles that have been some time in the water. With the aid of a brush the labels are then easily removed. The bottle is then stood neck downwards over an upright pipe. By pushing a handle at the side of the table in one direction water is squirted inside the bottle; by pushing the handle in the opposite direction the water and sand are violently discharged. If this does not suffice the bottle can be affixed to a revolving brush which removes any hard substance adhering inside. Then there is a table with a little measured reservoir above. Eight rubber tubes are introduced in the necks of eight bottles. On turning a handle to the right the four bottles on that side receive the exact amount of brandy they should contain, and while the handle is turned to the left to fill the bottles on that side the first four are removed and empty ones are put in their place. The bottle is then placed under the corking machine. By pressing a lever, not only is the cork forced into the bottle, but a little piece of vegetable parchment is brought under the cork, which it surrounds and covers, preventing any contact between the cork and the alcohol. Thus the cork does not decompose in the bottle and cannot spoil the brandy. This is also important from an antiseptic point of view, as it is difficult to guarantee that the corks are aseptic. Dr.

Roux of the Pasteur Institute was much impressed by this contrivance and said it was the best thing of the sort he had seen. In the corking of the bottles, as in every other detail, everything is, as already stated, done by machinery, the alcohol is never in contact with anything that has been touched by the hands of the workers.

Finally, there is an exact reproduction of a Russian depôt for the retail sale of brandy, or *vodki* as it is called. It consists of a counter well protected with strong wire so that no one can reach over towards the bottles which are on shelves behind. In front there is only a little standing room for the customers, there are no glasses, and no one is allowed to drink on the premises. The attendants are employed by the Government, they receive fixed salaries, they are in no wise interested in pushing the sale, and they are forbidden to give credit. One of the great objects was to abolish the village taverns or dramshops which have been the ruin of so many peasants. On the other hand, the utility of the tavern as a place of social intercourse could not be denied, consequently out of the profits made by the monopoly of the sale of alcohol no less than 826,000 subsidies, amounting to 1,500,000 roubles, were granted to temperance committees in 1897. The mission of these committees is to create establishments where all the advantages of social intercourse can be enjoyed without the necessity of drinking alcohol. Therefore they establish cheap restaurants, reading-rooms, libraries, and halls for popular lectures, concerts, &c., and this they are now able to do out of the profits from the sale of alcoholic liquors. But though the low-class taprooms or public-houses have been abolished still inns and restaurants are necessary. Therefore the retailing of alcohol to be drunk on the premises is sanctioned at railway stations, in hotels, high-road inns, and such places, but this is done in such a manner that innkeepers have no interest in pushing the sale of alcohol. They only receive a commission of 10 per cent. on the *vodki* they sell. If a higher commission is given it is because they have a long way to go to the nearest State depôt. But it will be said that the innkeepers could refill the bottles with some spurious alcohol brought from an illicit distillery. To meet this, the sale of *vodki* on draught is absolutely prohibited. Every purchaser must have an entire bottle, so bottles that only hold enough for one drink are provided. These contain six centilitres of *vodki*, and the retail price in Russia of these bottles is equal to about seven farthings of English money. On the bottle a label indicates the quantity and the alcoholic strength of the *vodki*. The cork is sealed with the Imperial arms. The price at which it is to be retailed is also stated so that the innkeepers cannot in any way increase the profit he is to make. Apart also from these printed statements the colour of the wax indicates the strength and value of the contents of the bottle. Deception is not practicable and if it were practicable the penalty is 15 years in Siberia. The State takes back the empty bottles if they retain their labels and the number of the factory. The State alone has the right to fill the bottles and the Imperial seal is the guarantee of the purity of their contents. As the profit on the sale of alcohol is only about 10 per cent. no one is particularly interested in pushing the trade, and therefore there is no attempt to increase the demand. Also it is strictly a ready-money trade, so that drunkards cannot get into debt with the publican. Nevertheless, but for the small bottles some form of fraud might still be possible. If a publican can draw the cork from a bottle and pour out only a part of its contents there is no knowing with what he may refill the bottle. The Russian innkeeper, however, must serve an entire bottle to his customer; the consumer alone has the right to break the seal, and to serve a bottle with a broken seal is a penal offence. This rule can be easily observed, as there are bottles small enough to contain sufficient for one drink only.

The results of this great reform have been beneficent, financially and morally. The State sells a litre of alcohol for 3 francs 92 centimes. The cost of production, including excise duty, indemnities to towns which by the abolishing of the licensing system have lost a source of income, &c., amounts to 3·26 centimes. No indemnity whatsoever was paid to the dramshop keepers. Many of them were very rich and in any case had done harm enough to debar themselves from any claim for compensation. In 1897 the 66 centimes of net profit per litre of alcohol brought in a revenue of 47,000,000 francs. But what is even more advantageous, districts that were ten years in arrears in the payment of direct taxation are now clear and are paying regularly all their taxes. The Emperor Alexander III. in discussing this scheme had said that any reduction of indirect revenue due to the taxing of alcohol would be compensated by an increase in direct taxation arising from the greater prosperity of the people. This anticipation has been realised. Drunkenness has been very greatly reduced, there are less crime and debauchery, and there is a consequent distinct improvement in public health. The deposits made in the savings-banks have increased in a marked manner, and this improvement would have been even more emphatic but for the very serious famines that have prevailed in different parts of Russia.

To sum up, the position stands thus. The retailer makes less profit out of the sale of alcohol than he does out of anything else which he may have to sell; therefore he is not at all desirous to induce his customers to drink, he would much prefer to sell them food, coffee, or tea. Then as the alcohol is absolutely pure it is not so injurious to the consumer. As all the low-class dramshops are abolished the peasantry are no longer induced to run into debt for the sake of drink; but, on the other hand, the temperance committees receive funds from the State which enable them to provide rational enjoyment for the peasantry. The results are a notable decrease in drunkenness and crime and a corresponding increase in public revenue by the more regular payment of direct taxation and in private prosperity, as indicated by the increase of deposits made in the savings-banks.

Now, without going all the way to Russia to study the details, technical processes, administrative complications, &c., of this great and radical reform, the entire subject can be thoroughly investigated here in Paris and within a few yards of the Eiffel Tower. This, indeed, is a unique opportunity. All those who devote so much time to studying and discussing the great question of temperance reform, the prevention of the diseases due to alcoholism, &c., have now within easy reach a practical, complete, technical, and general example and illustration of one of the boldest, the most far-reaching and systematic efforts that any modern European Government has ever ventured to make when seeking to grapple with this terrible and menacing problem.

Paris, July 1st.

PLAGUE IN AUSTRALIA.

(FROM A SPECIAL CORRESPONDENT.)

THE returns of plague at Sydney for the week ending May 19th are as follows: remaining at the beginning of the week, 86; admitted, 23; discharged, 0; died, nine; remaining at the end of the week, 100. The totals up to the end of the week are as follows: cases, 239; deaths, 82; recovered, 57; "contacts," 1351; "contacts" remaining, 140; cases among "contacts," seven.

The second series of inoculations, begun last week, proceeds slowly though steadily. An average number for each of the past nine days is 200. No excitement and comparatively little interest in it are manifested. Two factors, however, have to be considered besides the great abatement in the panic with which the public were stricken at the date of the former inoculations. The present series has been carefully organised and steps have been taken to secure inoculation of the remaining workers in, and inhabitants of, the first infected area, a considerable proportion of whom were inoculated on the earlier occasion. Candidates now have to apply for tickets, which are dated for some day later than that of application, and they must present themselves on that day or procure a fresh ticket. Business firms may make application for their employés by letter and receive by post tickets dated for different days, so as not unduly to interrupt business. Government departments may follow the same course or, if they choose to provide themselves with a medical man, may be supplied with enough prophylactic to inoculate all of the staff who desire it. Tickets are allocated to days in limited numbers; half of the number are distributed by post as just mentioned, the other half are reserved for applicants in person. Tickets are distributed to persons and by post every morning; inoculations are performed every afternoon. Two afternoons a week are reserved for women and children. The city townhall furnishes a place; the staff consists of two medical men, two preparators (medical students), and two clerks.

The number of persons in whom plague has developed after inoculation has been 11. One was attacked on the day of inoculation, one each on the first, second, and third days therefrom, three on the fourth day, and one each on the fifth, seventh, fourteenth, and thirty-second days. All of these recovered, and most of them had conspicuously light attacks. One other patient who died said that he had been inoculated, but his name did not appear in the lists; his family knew nothing of it, but a fellow clerk said that he thought he had been inoculated, because though he never told him so directly, he had expressed an intention of submitting himself, did take leave one afternoon, and for two or three days thereafter complained of his arm. The informant seemed certain that he had been inoculated. No reason for this secrecy coming to light, it seemed possible that he gave a false name to the registering clerk.

Of the total deaths mentioned above 27 have occurred before removal to isolation; eight occurred at one or other of the general hospitals where their cases were identified, though they had either already died before official inspection or were too ill for removal; and 19 died at their residences. Sometimes the cause of death in these cases was uncertified and the cases were brought to notice by a coroner; sometimes the patient was seen alive by a member of the medical staff but died soon afterwards; sometimes very acute cases were reported by medical men but died before they could be examined; and occasionally the unexpected occurrence of death first gave the medical attendant reason to think of plague and caused him to refer the case to the medical staff. In five of the 27 cases the date of attack could not be ascertained; the remainder died on days after attack from the first to the eighth as follows: 1, 3, 7, 3, 2, 2, 2, 2. In all cases of predecease the diagnosis was made by post-mortem and bacteriological examination.

Chinese have now been attacked in eight instances; seven of the patients have died. The dates of discovery were April 9th, 16th, 23rd, and 26th, and May 8th, 9th, 15th, and 17th. Possibly the latter dates offer a hint of tendency in the disease to take hold of these Asiatics. At all events, special search-parties have been organised by the Department of Public Health and next week they will go through the three small Chinese quarters which exist in Sydney. In all the cases there is strong reason to believe that the patient had been removed from some better or more populous residence to the unimportant place in which he was found. In one such case the sufferer was found in a room attached to a mission chapel where no one lived; another patient asserted that he had been tramping over the country in search of work and had arrived in Sydney by train from a remote station the day he fell ill and was discovered—a story which his appearance belied and which was easily shown to be false by the police and by the guards of the only trains by which he could have travelled. Especial care was taken to procure substantial evidence of the facts, although it is apparent that a tramp could not have acquired plague in the bush under existing conditions.

Two litres of Yersin-Roux serum arrived in bottles holding 20 cubic centimetres each and the use of it was commenced at the end of last week. The results could not be mentioned in sufficient detail in this communication, were they complete; they seem, however, to bid fair to be satisfactory, and it may be noted that all patients thus far treated have a pulse of much greater strength than is usual at the corresponding date of illness in untreated cases be they mild or severe. From this it may be inferred that the serum is an efficient antitoxin at least.

May 21st.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

University of Birmingham.

HER MAJESTY in pursuance of the provisions of the Charter of the new university has been pleased to appoint Oliver J. Lodge, D.Sc., LL.D., F.R.S., Professor of Experimental Physics in the University College, Liverpool, to be Principal of the University of Birmingham. This appointment has given general satisfaction to all interested in the university. Dr. Lodge's reputation is a wide and substantial one. His work on electricity and light and his researches in the field of experimental physics and allied subjects have made his name familiar and popular as a writer and teacher of the first order. Having just completed his forty-ninth year Dr. Lodge may look forward to his reign in this new sphere with hopefulness and confidence, while his colleagues will rest assured that they will have the association of an eminent and active director in all questions affecting the progress and distinction of the University. In illustration of the activity of the students at present engaged at Mason College a meeting was held on June 12th for the purpose of forming a University company of Volunteers. The Dean of the Medical Faculty—Dr. B. C. A. Windle—presided and much enthusiasm was exhibited. The object is to get a sufficient number of drills completed before August 6th and then to appear as a complete company on Salisbury Plain.

A New Asylum.

An inquiry under the auspices of the Local Government Board was held on June 21st for the purpose of borrowing £249,250 for the building a new asylum at Hollymoor. The Town Clerk explained the objects of the inquiry and gave details of the necessity and the approximate cost. He stated that the authorised accommodation for patients at the existing asylums of Winson Green, and at Rubery Hill was for 1429, but as the members had been for some time increasing this was found to be insufficient. Thus the number of patients in the two asylums in 1891 was 1205, in 1900, 1528 The increase was stated to be normal in proportion to the increase of population, amounting to about 40 per annum. To meet the increase temporary provisions were made in 1897 by a lease of Sandwell Hall at a rental of £300 per annum, giving accommodation for 150 male patients. Another building had also been provided for a time to meet the difficulties of the increase which would be for female patients. It was pointed out that all these additional premises were held on limited leases only and that the necessity of permanent buildings was obvious from the statistics adduced. The expense will be a heavy tax upon the ratepayers, for though the Government, recognising that lunacy is a national and not a local misfortune, contribute towards the maintenance of the inmates the cost of the new buildings must be borne by local taxation; fortunately this extends over a series of years.

Inebriate Homes.

Corngreaves Hall, near Birmingham, was the scene of an animated gathering on June 13th, when it was formally opened as an inebriate home for women. The building has been acquired by the Worcester Diocesan Church of England Temperance Society. It is intended for the reception of inebriate women of any denomination, the age-limit being from 20 to 45 years. No person will be admitted for less than 12 months and patients are strongly advised to enter for two years. Accommodation is provided for 30 patients and arrangements are made for three grades payment being accordingly. Employment and recreation will be duly provided. Under the present able administration the results are looked forward to with cheerfulness and hope. The board has appointed two representatives from Birmingham on the management, taken from the justices of the city roll.

Hospital Saturday.

The sum paid into the bank for this year's contributions amounts to £16,111, as compared with £16,521 last year. This falls short of the £20,000 asked for, but under existing circumstances it must be regarded as a valuable contribution.

July 3rd.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

A New Hospital in Liverpool for the Treatment of Tropical Diseases.

IT is proposed to erect a new hospital in Liverpool for the special treatment of tropical diseases, as the accommodation provided in the Thompson-Yates Ward at the Royal Southern Hospital has become too limited for the number of cases applying for treatment. At the banquet at the Adelphi

Hotel on June 25th in honour of Dr. H. E. Durham and Dr. Walter Myers, on the eve of their departure for the Amazon, subscriptions amounting to about £2500 were announced towards that object. It was certainly a happy thought which suggested to Mr. Alfred L. Jones, who presided, the association of the name of Miss Mary Kingsley, the intrepid traveller and friend of the negro, with the new hospital. No more fitting memorial to perpetuate that lady's name can be conceived than that of connecting her name with an undertaking which is intended to benefit the lands she loved so well.

The Thompson-Yates Laboratory Reports.

The first issue of the Thompson-Yates' Laboratory Reports, vols. i. and ii., 1900, has just appeared from the University Press of Liverpool. The reports consist of two large quarto volumes, handsomely designed and furnished with numerous coloured plates and illustrations. The first volume, which consists of 238 pages, contains the account of the opening of the laboratories in October, 1898, by Lord Lister, P.R.S., who was accompanied on that occasion by Professor Virchow and a distinguished gathering of scientific and representative men. An address delivered before the medical students of University College, Liverpool, by the donor of the laboratories, the Rev. S. A. Thompson-Yates, will also be found in the first volume. In the second volume, which contains 265 pages, reports are given of the various departments, including the report of the first malarial expedition to West Africa by Major R. Ross, I.M.S., Dr. H. E. Annett, and Mr. E. E. Austen, which clearly indicate the many ways in which the University teaching in the schools of physiology and pathology is directly applicable to the needs of the community, including the wide sphere of our colonies, both as regards the prevention and cure of disease at home and abroad and the advancement of commerce. They are intended to promote learning and record research in the various branches of physiology and pathology, and thus to carry out the wishes of the founders of the two schools. They also contain reprints from various authors and medical journals. The editors are Professor Rubert Boyce and Professor C. S. Sherrington, both of University College, Liverpool, assisted by junior members of the staff of the schools of pathology and physiology.

July 3rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Chair of Systematic Medicine in the University of Glasgow.

THE Chair of Systematic Medicine in the University of Glasgow, vacant by the resignation of Sir William Gairdner, has been filled by Her Majesty the Queen having been pleased to appoint, upon the recommendation of the Secretary for Scotland, Professor McCall Anderson, the Professor of Clinical Medicine in the University. Dr. McCall Anderson is M.D. of the University, and F.F.P.S. of Glasgow. He is physician to the Glasgow Western Infirmary and consulting physician to sundry other Glasgow medical institutions. He is the author of various medical works, chiefly dealing with diseases of the skin.

The Forthcoming Health Congress in Aberdeen.

The Public Health Congress, at which 716 delegates have now promised to be present, to be held at Aberdeen under the auspices of the Royal Institute of Public Health, will extend from Thursday, August 2nd, to Tuesday, August 7th. It is intended to open the proceedings with an address by the President, the Earl of Aberdeen, in the Mitchell Hall, Marischal College, and it is expected that the delegates will be entertained by the corporation at a reception and a luncheon. Saturday will be devoted to excursions to Balmoral, &c. On Sunday the Congress as a body will attend service in the West Parish Church to be conducted by Principal Marshall Lang, Aberdeen University. Three special papers will be read to all the members—viz., one on "Disinfection" by Professor Delépine of Owens College, Manchester; one on "Sewage" by Professor Percy Frankland, F.R.S., Birmingham; and one on "The Origin and Treatment of Malarial Fever," by Dr. Patrick Manson, medical adviser to the Colonial Office. Numerous papers have also been promised for the sectional meetings, including one on "Fever Hospital Construction," by the city architect of Edinburgh; one on "Modern Workshops," by Miss Paterson, H.M. Inspector of Factories; and several on the housing of the working classes, meat inspection, ambulance work, vaccination, infant mortality, notification of measles, &c. There will also be submitted and discussed a report on the inquiry made into the chemical and bacteriological condition of the air in the London Board Schools.

Illness of Professor Ogston.

Much regret is felt in Aberdeen at the fact of Professor Alexander Ogston being "down" with fever at Bloemfontein Hospital. It is not yet known whether the fever is enteric, but Professor Ogston was no doubt exposed more to infection than other acting army surgeons as he was not attached to any particular hospital but took a general survey of the medical arrangements at the seat of war in South Africa.

July 4th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Surgeons in Ireland.

THE Council of the Royal College of Surgeons in Ireland have by a circular letter to the Fellows dated June 25th called attention to a resolution which was adopted at the annual meeting of the College held on June 2nd. The resolution stated—

> That in the opinion of this meeting of the College the practice of canvassing for the offices of President, Vice-President, or Members of Council should cease.
>
> That it be a direction to the Council to ascertain by means of a circular sent to each of the Fellows whether they would wish, with the object of discouraging canvassing, that the Council should immediately after an election to the office of President or Vice-President recommend to the College the name of one Fellow for election to the next ensuing vacancy in each of these chairs.

For the purpose of carrying out the direction contained in the above resolution a short voting-paper has just been sent to each of the Fellows so that he may state his opinion—for or against—the method suggested in the resolution of preventing canvassing for the Presidency and Vice-Presidency of the College. The method adopted by the general meeting of obtaining the opinion of the College as to canvassing is obviously open to two objections. It does not include any provision to prevent canvassing for the Membership of the Council, and secondly, it gives no opportunity to a Fellow who is opposed to canvassing but dislikes the proposed means for preventing it to give an expression to his views.

New Medical Deputy Lieutenant.

The *Dublin Gazette* announces the appointment as Deputy Lieutenant of the City and County of Londonderry of Joseph Byrne, F.R.C.S.Irel., of Londonderry, his commission bearing date June 13th, 1900.

The Belfast Workhouse.

At the usual meeting of the Belfast Board of Guardians on June 19th a letter was read from the Local Government Board, based on a sworn inquiry, held by one of their inspectors, Mr. Robert Agnew, which certainly is a terrible indictment of the management of that extraordinary place. The letter states that it has been amply proved that, as regards the expenditure of such a large amount as £8367 upon buildings, repairs, and fittings in connexion with the Belfast Union Workhouse between August, 1897, and December, 1899, the general regulations (such as that any work or repairs to be executed in the workhouse exceeding the cost of £20 in one sum shall be contracted for by the guardians according to rules laid down) have been to a great degree ignored or evaded and broken. Upon a careful consideration of the evidence and after a close examination of the procedure adopted in making payments, it appears clear to the Local Government Board that a system was followed so as to make it appear that the law and regulations were being adhered to, while, as a matter of fact, they were being systematically broken. So impressed are the Local Government Board with the serious condition of affairs that they have decided to dismiss the master, but they will withhold the sealed order to this effect for a week in order to give him an opportunity of resigning his position immediately. (This he has now done, submitting a medical certificate to

the effect that he was physically unable to grapple with the duties of his office.) The Local Government Board also regard the conduct of two other minor officials with extreme disapproval. It need hardly be said that this extraordinarily severe censure of the Belfast Workhouse by the Local Government Board has produced a very marked effect on the general public who have now lost all confidence in the management of the Belfast Workhouse, and this feeling of public dissatisfaction has been deepened by the guardians in the coolest possible way approving of an expenditure of £12,500 for the purpose of providing a new board-room and clerks' offices in the workhouse. It is hoped that the Local Government Board will stop this most useless expenditure. Again, it is stated in the press that another scheme is being put forward by the guardians for the erection of new school buildings for the workhouse children on a site at the foot of Mount Divis, outside the present workhouse altogether, and it is presumed these may cost £100,000, while the present school buildings inside the workhouse would cost £25,000. Fortunately, without a new Act of Parliament such extravagance cannot be perpetrated. The Local Government Board say that the management of the Belfast Workhouse has been characterised by "gross irregularities" and "gross carelessness," and that there is inefficient supervision by responsible officials; but can the guardians themselves be acquitted of all blame for the lamentable state of a great public institution? One of the leading Belfast morning newspapers says: "It is the chattering incompetence of many of the guardians themselves that has long made the board the scandal and disgrace of Belfast, and we hope the ratepayers will take due note of what is going on and will vigorously apply the policy of the 'sweeping brush' at the next election."

Royal University Graduates' Association.

The first annual meeting of the Royal University Graduates' Association (the objects of which were stated in THE LANCET of June 16th, p. 1760) was held in Belfast on June 25th, the President, Dr. W. A. McKeown, occupying the chair. In their report the council state that the association has received the support of a large number of the graduates of the University, all the faculties being well represented, but they regret to find that so many have neglected to register as members of Convocation. Some improvement has been made in the University examinations, and the question of the appointment of extern examiners (so strongly advocated by the association) is now under the consideration of the Senate. Financially there is a balance in the treasurer's hands. The President, in moving the adoption of the report, said the action of the association had been directed by the principle that university education should not be under clerical control. The election of Dr. Walton Browne by the graduates to a place on the Senate of the Royal University had helped to secure a measure of fair play to the students of provincial schools and some improvement in the conduct of the examinations. He said many graduates had not joined the association because of the fundamental rule, not only pledging opposition to sectarian universities, but to provincial universities. It had been said why should the great medical school of Belfast be kept in leading-strings to Dublin? He (Dr. McKeown) sympathised with that argument and no one disliked more thoroughly the Dublin influence or was more desirous to reduce it to its legitimate proportions than himself, and in any reorganisation of the University it was a plank of their platform that if institutions were to be represented on the examining boards that representation must be regulated according to the importance of the respective institutions as estimated by the average number of graduate students for a period of years. The objection of the association to sectarian universities was on principle and admitted of no compromise, while that to a provincial university was a matter of experience and might alter with time and circumstance. For example, if the numbers of university students largely increased in Belfast, if funds were available for a university on so liberal a scale as to secure and hold the very best teachers and put the university above the temptation of increasing its students by lowering the standard, then he (Dr. McKeown) would be the very last person to oppose, but on the contrary, would strongly advocate the establishment of a local university, provided that in its organisation there was not even an appearance of sectarianism. Dr. McKeown then gave a very interesting address on Irish University education, in which he opposed very strongly Mr. Balfour's proposed settlement and again brought forward his own plan of local government for the Queen's Colleges with separation from State connexion and a reorganisation of the Royal University as a means of settling the question. Resolutions having been passed against the establishment of State-endowed sectarian universities, deprecating the destruction of the Royal University, advocating the appointment of extern examiners, and expressing satisfaction that the papers issued by the Foreign and Colonial Offices showed that there was no precedent in foreign countries or in the Colonies for the establishment of sectarian universities (on Mr. Balfour's lines), the office-bearers for the ensuing year were appointed. At the request of the meeting Dr. McKeown's interesting presidential address is to be printed.

July 3rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Right of Property in Medical Records.

AT a recent meeting of the Society of Legal Medicine M. Brouardel brought forward a most interesting point in reference to a matter upon which he had been consulted. A medical man died and his only son, also a medical man, entered into possession of his late father's house and carried on the practice. He was anxious to consult certain notes and observations accumulated by his father which were stored away in the consulting room. But his step-mother (*belle-mère*) as co-heiress refused to let the son make use of the notes, ostensibly on the plea that she was anxious to avoid any violation of professional secrecy. M. Brouardel was of opinion that there would be no violation of secrecy, but simply a continuation of the trust from the first medical man to the second who succeeded and who would take over the medical observations collected by his predecessor. A legal expert, however—namely, M. Danet—held a different opinion and thought that all the notes and case-books should be burned. In face of this difference of opinion the question should be left to the courts to decide. In the course of the discussion at the Society of Legal Medicine M. Ladreit de la Charrière gave it as his opinion that a man who sells his practice has no right to communicate details as to the past medical history of his clients because they may choose to go to some other medical man than the purchaser of the practice. M. Rocher said that French law did not recognise the sale of practices. *A fortiori* then a medical man had no right to hand over to his successor details of patients without their consent. He agreed with M. Danet that the documents should be burned. M. Brouardel protested against this view, for if whenever a practitioner died all his notes were to be destroyed great injury would be done to the patients themselves and science would be deprived of a very valuable mine of collected knowledge. The matter was in the end remitted to a special committee, on the motion of M. Brouardel.

Prophylaxis of Typhoid Fever in Paris.

The Council of Hygiene and Public Health have unanimously passed the following rules which were formulated by M. Roy des Barres in his report upon typhoid fever in Paris during 1899 and the early months of 1900. 1. Steps shall be taken to ensure the formation of a sufficient protection zone round the gathering-grounds of spring waters. 2. The head waters are to be strictly examined so as to eliminate as far as possible any source of infection. 3. Throughout their course these waters shall be kept covered in. 4. The necessity for a final purification of the water shall be kept in mind whether this be done by filtration or some other process, such as using ozone, and experiments as to the best means for sterilisation in bulk shall be set on foot. 5. Filtered river water and spring water shall not be mixed as a rule, but if at any time such admixture shall become necessary means shall be taken for clearly setting forth the details of the admixture and the probable length of time for which such mixed supply shall last. 6. Every district supplied shall be informed as soon as there shall be any change made in the source of supply. In addition, the Council of Hygiene and Public Health of the Department of the Seine have passed a resolution to the effect that the administration shall as soon as possible supply with drinking water the public

parks and gardens, together with the restaurants contained therein. Fountains and conduits are to be specially labeled so that it can be seen at once which supply drinking water and which supply water for cleansing or gardening purposes only. The Prefect of the Seine has accordingly ordered that enamelled plaques bearing the words "drinking water" or "river water" shall be immediately affixed to all the fountains in the parks and squares.

The Action of Artificial Abscess in Experimentally Produced Anthrax.

M. Fochier and M. Mérieux of Lyons communicated to the Society of Biology at a meeting held on June 23rd the results of some experiments which they had made as to the effect of an artificially produced abscess in the case of animals inoculated with anthrax. If a rabbit is simultaneously inoculated with a virulent anthrax culture and with essence of turpentine in a dose of 0·25 of a cubic centimetre it either survives altogether or takes a much longer time to die than a control animal which dies at the end of a period lasting on an average for about 66 hours. The results of the turpentine injection are, as a rule, in harmony with the inflammatory reaction which it produces. If given 24 hours before the anthrax culture it produces far less marked effects than if given simultaneously. Given some hours after the anthrax culture its effects varied much. Intra-muscular injection gave less good results than subcutaneous injection. When the animals which survived were killed and examined they showed no signs, either macroscopically or bacteriologically, of anthrax. If a surviving animal was again inoculated it succumbed with undoubted signs of anthrax although the symptoms were less marked than in an ordinary animal. If the turpentine were injected into the dorsal region and the anthrax into the abdominal region M. Fochier and M. Mérieux noticed that there appeared, close to the œdema produced by the anthrax culture, another zone of gelatinous œdema which was apparently a sign of defensive action on the part of the organism. Also in animals thus treated the anthrax œdema sometimes did not appear or, at any rate, was less marked than in a control animal, and in those animals that died very few bacilli were found in the spleen and in some instances cultures made from them remained sterile. The artificial abscess, when it burst spontaneously, either did not become infected or, if it did, hæmorrhagic ulcerations were produced which without doubt contributed towards the death of the animal.

July 3rd.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Laboratory Work of the Board of Health of Ontario for 1899.

THE provincial bacteriologist, Dr. J. J. Mackenzie, gives the results of his past year's work in the annual report of the board, which has but recently been handed to the profession. During the year the total number of specimens examined in the laboratory amounted to 1370, made up as follows: suspected sputum, 629; suspected exudate, 375; suspected typhoid blood, 164; waters for bacteriological examination, 16; waters for chemical examination, 29; miscellaneous samples, 52; and suspected rabies, 5. Out of something like 2400 physicians in the province of Ontario alone 300 physicians sent in 1100 of these specimens. The report shows as regards the examinations for suspected tuberculosis that 32 cases were diagnosed positively within two months of the presumed date of onset of the disease. From this is emphasised the importance of an early examination of the sputum, especially so when one remembers the success by modern methods which follows early diagnosis. As to the 375 diphtheria swabs, 147 of these gave positive cultures. The advantages of the early administration of antitoxin are also dwelt upon. There were four cases of suspected cerebro-spinal meningitis, only one of which showed the diplococcus intracellularis meningitidis, which was a fatal case with an illness of 48 hours. Among the miscellaneous investigations of the laboratory was a study of the character of a bacillus found in grass which resembles the tubercle bacillus. It is pointed out in the report that the occurrence of this bacillus in butter has undoubtedly given rise to error, as it is apt to be reported as the bacillus of tuberculosis. Its growth in culture media differs, however, from that of the bacillus of tuberculosis as it is more luxuriant and rapid. This organism was found in several specimens of hay, and from one the bacteriologist was successful in isolating it in pure culture. It was also demonstrated in the resulting cultures that the form was identical with Rabinowitch's butter bacillus; and experiments on animals showed it to have a very slight degree of virulence. Dr. Mackenzie was further able to show that its peculiar staining characters are due, as in the bacillus of tuberculosis, to a fatty envelope, but found that, contrary to what occurs in the bacillus of tuberculosis, this fatty envelope can be readily dissolved off with alcohol, so that after boiling in alcohol for ten minutes the organism no longer takes the peculiar stain but stains like any other form.

Alum Baking Powders.

From the Department of Inland Revenue at the capital, Ottawa, has just been issued a bulletin of some 39 pages which gives the results of the work of the Dominion chemists for some time past. No similar bulletin has been issued from the department on the same subject since 1880. It contains the details of the analysis of 156 samples of these powders purchased throughout the Dominion; and of this number only 44 samples are entirely free from alum. That is to say, over 70 per cent. of the baking powders sold and used in this country contain alum. A very large part of the bulletin is taken up with a study of the scientific evidence bearing upon the physiological effects of alum, especially that evidence which has accumulated since 1880. The conclusions reached are very outspoken and decided so far as alum itself is concerned. Whilst many manufacturers and some chemists claim that in a well-made alum powder no alum as such remains in the bread, but hydrate and phosphate of alumina, still the characters of these products have also been carefully and thoroughly gone into and the following conclusions arrived at: "The question of the harmlessness of hydrate of alumina has, however, not been proven, and the most that can be said for it is that the case is still unsettled. The health of a nation is too serious a matter to be imperilled lightly and if it be impossible to secure prohibitory legislation against alum baking powders it is all the more desirable that manufacturers of these powders should be required to state their composition on the package, so that consumers may know what they buy and use. Until it is demonstrated that hydrate of alumina is harmless in food the use of alum baking powders is attended with a very serious risk; while not even the proving of these substances harmless would establish the safety of these powders, since, for reasons already mentioned, it is quite uncertain that the reaction is completed in the bread."

Special Hospital Accommodation for Inebriates.

For some years past an effort has been put forth by leading members of the profession in Ontario, assisted by prominent lay gentlemen, to bring the Ontario Government to a sense of their duty in providing accommodation for the special treatment of those unfortunates addicted to the liquor habit. Their labours are apparently in the immediate future to be crowned with success. At the last session of the local legislature an influential delegation waited on the Premier of the province, the Hon. Dr. G. W. Ross, with the result that a Bill has been drafted for introduction into the House in the next session. This Bill will provide for the immediate appointment of a superintendent, a medical man who has devoted some attention to the treatment of the chronic inebriate. He will at once proceed to organise cottage hospitals throughout the province or to see that special wards are set apart in the general hospitals already existing for the proper care and treatment of these patients. The legislation will further provide that in towns of 20,000 and over special commissioners shall be appointed to look after this work, whose duty will be to induce inebriates to undergo treatment and to visit and encourage them while they are undergoing treatment. Steps will also have to be taken to make provision for their employment and to endeavour to change their environment and to place them on a higher plane of life and living. The Government will also be asked to make a per diem grant in addition to the regular hospital grant. The scheme has been approved of by practically all the leading medical societies throughout the country.

June 22nd.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Another Anti-vivisection Bill in the United States.

IN THE LANCET of Feb. 24th (p. 583) I referred to the Anti-vivisection Bill introduced by Senator Gallinger in the district of Columbia, having for its nominal object the prevention of cruelty to animals. Owing to the opposition against this Bill of the most prominent scientific and medical men in the country, including Dr. Osler, Professor Welch, Professor Bowditch, Professor Eliot, and Dr. Keen (President of the American Medical Association), Senator Gallinger was induced to hold a meeting at which both sides of the question might be fairly placed before the public and the whole matter discussed at length. This meeting was held on Feb. 21st at Washington and, as may be imagined, was both instructive and interesting. The case for the vivisectionists was presented in the most convincing manner by Dr. Hare, Dr. Keen, Professor Welch, and Professor Bowditch. Dr. Welch's arguments were especially to the point. He contended that there was no necessity whatever for further legislation in regard to vivisection as the existing law permits only "properly" conducted scientific experiments or investigations, which experiments are to be performed only under the authority of the faculty of some regularly incorporated medical college, university, or scientific society. He also drew attention to perhaps the most serious fault of the Bill which put into the hands of men who need not be, and are not likely to be, physicians or men of science, arbitrary powers requiring for their use skilled knowledge concerning matters of the highest importance to medicine and biological science and to the welfare of mankind. The determined stand made against the Gallinger Bill has had the effect of compelling its authors to amend it to a certain extent, but the only concessions of importance introduced into the Bill drafted in its place relate to exclusion of cold-blooded animals, the omission of two classes of special certificates, and a wider choice in the selection of anæsthetics. In some respects the restrictions are made more severe and the most obnoxious features of the Bill are left unchanged. Professor Eliot of Harvard University expresses the sentiments of the majority of scientific and medical men in this country with regard to all such legislation in the following remarks: "1. To interfere with or retard the progress of medical discovery is an inhuman thing. Within 15 years medical research has made rapid progress, almost exclusively through the use of the lower animals, and what such research has done for the diagnosis and treatment of diphtheria it can probably do in time for tuberculosis, erysipelas, cerebro-spinal meningitis, and cancer, to name only four horrible scourges of mankind which are known to be of germ origin. 2. The human race makes use of animals without the smallest compunction as articles of food and as labourers. It kills them, confines them, gelds them, and interferes in all manner of ways with their natural lives. The liberty we take with the animal creation in using utterly insignificant members of them for scientific researches is infinitesimal compared with the other liberties we take with animals, and it is that use of animals from which the human race has most to hope. 3. The few medical investigators cannot probably be supervised or inspected or controlled by any of the ordinary processes of Government supervision. Neither can they be properly licensed, because there is no competent supervising or licensing body. The Government may properly license a plumber, because it can provide the proper examination boards for plumbers; it can properly license young men to practise medicine, because it can provide the proper examination boards for that profession and these boards can testify to the fitness of candidates; but the Government cannot provide any board of officials competent to testify to the fitness of the medical investigators. 4. The advocates of anti-vivisection laws consider themselves more humane and merciful than the opponents of such laws. To my thinking these unthinking advocates are really cruel to our race. How many cats or guinea-pigs would you or I sacrifice to save the life of our child or to win a chance of saving the life of our child? The diphtheria antitoxin has already saved the lives of many thousands of human beings, yet it is produced through a moderate amount of inconvenience and suffering inflicted upon horses and through the sacrifice of a moderate number of guinea-pigs. Who are the merciful people—the few physicians who superintend the making of the antitoxin and make sure of its quality, or the people who cry out against the infliction of any suffering on animals on behalf of mankind? It is of course possible to legislate against an improper use of vivisection. For instance, it should not be allowed in secondary schools or before college classes for purposes of demonstration only, but any attempt to interfere with the necessary processes of medical investigation is, in my judgment, in the highest degree inexpedient and is fundamentally inhuman." The anti-vivisection party in the United States has been endeavouring to make capital of the supposition that the restrictive laws against vivisection passed some years ago in Great Britain have fulfilled the purpose for which they were enacted and are in harmony with the views of the majority of the scientific and medical men of that country. Dr. Welch, in his address of Feb. 21st showed that such was not the case and demonstrated his point by the contrary evidence of Sir John Simon, Lord Lister, Sir T. Grainger Stewart, Sir T. Lauder Brunton, and Sir Michael Foster. In fact the experience of Great Britain as to the results of restrictive legislation with regard to vivisection will act as an incentive to scientific and medical men to oppose as strenuously as possible the imposition of similar laws in the United States.

June 30th.

THE METROPOLITAN HOSPITAL SUNDAY FUND.

THE following were among the principal amounts received at the Mansion House in aid of this Fund up to noon on Wednesday:—

	£	s.	d.
Christ Church, Lancaster Gate	1519	0	0
Miss M. E. Druce	100	0	0
F. C. D.	100	0	0
Christ Church, Mayfair	174	0	0
Holy Trinity, Roehampton	73	0	0
St. Thomas's, Portman-square	80	0	0
St. James's, Hatcham	97	0	0
St. Augustine's, Highbury	57	0	0
All Saints, Orpington	34	0	0
St. Paul's, Onslow-square	475	0	0
St. Stephen's, Ealing	85	0	0
St. George's, Perry Hill	40	0	0
St. Saviour's, Upper Chelsea	159	0	0
St. Matthew's, Bayswater	142	0	0
Clapham Parish Church	70	0	0
Holy Trinity, Paddington	85	0	0
St. Andrew's, West Kensington	85	0	0
St. Mark's, Hamilton-terrace	223	0	0
Immanuel Church, Streatham-common	72	0	0
St. Michael's, Highgate	82	0	0
St. Matthew's, Denmark-hill	143	0	0
St. Mark's, Highgate	76	0	0
St. Mary Aldermary and St. Thomas Apostle	85	0	0
St. Paul's, Beckenham	145	0	0
St. James's, Piccadilly	88	0	0

The total up to noon on Wednesday last was £31,000. The collection made at Christ Church, Lancaster-gate, is the largest amount ever received from one congregation since the establishment of the Fund.

POPLAR HOSPITAL FOR ACCIDENTS.—The annual festival dinner in aid of the funds of this hospital was held at the Holborn Restaurant on July 2nd, Mr. F. J. Mirrielees presiding. Colonel J. L. du Plat Taylor, replying to the toast of "The Navy, Army, and Auxiliary Forces," said that his son in South Africa had assured him that there were no complaints to make against the hospitals there. It would be better, he thought, if those who had fault to find would communicate with headquarters instead of writing letters to the *Times*. The chairman in proposing "Success to the Poplar Hospital," read a characteristic letter from Mr. Rudyard Kipling, who promised a contribution of £5. The Drapers' Company had given £14,000 for the purpose of providing 20 additional beds for medical cases, and had bestowed an endowment of £1000 per annum. The committee were now appealing for assistance with a view to increase the number of beds. Donations and subscriptions to the amount of about £3900 were announced.

Obituary.

THOMAS JONES, M.B., B.S. LOND., F.R.C.S. ENG.,

SURGEON TO THE MANCHESTER ROYAL INFIRMARY; PROFESSOR OF SURGERY, OWENS COLLEGE.

WE deeply regret to have to record the death of Professor Thomas Jones at Springfontein, South Africa, under peculiarly sad circumstances. It will be remembered that when it was decided to send out a Welsh hospital to South Africa, Professor Jones consented to undertake the management of it, and he left England on April 14th, together with the other members of the hospital staff. On landing at Cape Town he at once proceeded to Bloemfontein, where he remained for several weeks pending the establishment of the hospital at Springfontein in the Orange River Colony, which he joined towards the end of May. The first intimation of his illness was conveyed in a telegram received on June 16th, stating that he was suffering from nervous prostration. Two days later a message arrived to the effect that he was much better, but the following morning the sad news was received of his death, which had taken place on June 18th, presumably from enteric fever, as a large proportion of the troops under treatment at Springfontein were suffering from this affection. The Manchester contingent of the Welsh Hospital has been strangely unfortunate, for of the five members of the surgical staff who volunteered from this district, two others have also died in South Africa—viz., Dr. Herbert Davies, formerly house surgeon to Professor Jones at the Manchester Royal Infirmary, and also acting in the same capacity in the Welsh Hospital, and Mr. Eames, one of the surgical dressers.

Thomas Jones was born in 1848 in Carmarthenshire, and was educated first at Derlwyn College in that county and afterwards at the Normal College, Swansea. His professional studies were commenced at the Northern Hospital, Liverpool, in 1865, and were continued at Guy's Hospital, London. From an early period in his career his progress was marked by distinction, and he soon gave evidence that he would make for himself a name in the profession which he had decided to follow, for in the examinations for the degree of Bachelor of Medicine of the London University he obtained Honours in Anatomy and Medicine, and the gold medal in Chemistry and Materia Medica. After qualifying he held the office of house surgeon at Guy's Hospital and henceforth devoted himself entirely to the practice of surgery, in which he was destined to rise to such high distinction.

An old Guy's student, one of his contemporaries, writes of him as follows:—

> Probably all old Guy's men who were at the hospital in the late "sixties" and early "seventies" will remember the late Mr. Tom Jones. He was one of the best known students of his year, taking honours in most of the subjects at the London University and carrying off the gold medal in Chemistry at the first M.B. There are many probably who can recall him when dresser to the late Mr. Poland, and somewhat later again as house surgeon. The writer well remembers how well he fitted this latter position and how much he was thought of by the dressers and junior students. He was a perfect mine of information on all sorts of subjects, there was an entire absence of "side" in his manner, and every one liked his cheery disposition and kindly heart. The news of his tragic and untimely death in South Africa comes as a shock to his old fellow-students.

In 1872 Mr. Jones applied for and was elected to the post of house surgeon at the Manchester Royal Infirmary, and from that time he held office continuously at that hospital. From 1873 to 1876 he was pathologist, and from 1876 to 1879 he fulfilled the duties of surgical registrar. In 1875 he obtained the Fellowship of the Royal College of Surgeons of England, and in 1879 he took the degree of Bachelor of Surgery at the University of London with honours. In 1879 he was elected a member of the honorary staff of the Manchester Royal Infirmary, being appointed an assistant surgeon. In 1880, on the death of Mr. S. M. Bradley, he became full surgeon and this office he continued to hold up to the time of his death. In 1874 he was appointed surgeon to the Children's Hospital at Pendlebury, near Manchester, and upon his resignation of that post in 1880 he was made consulting surgeon. In the treatment of surgical diseases of children he always took great interest, and he devoted much time and energy to this institution which at that time had only been recently established. In 1880 he was appointed lecturer on Practical Surgery at the Owens College, and on the resignation of Professor Hare of the chair of Surgery in 1892 he accepted the Professorship of Systematic Surgery. By virtue of the latter office he became Examiner in Surgery to the Victoria University. In addition he also acted as one of the surgeons to the Manchester Cancer Hospital. In 1891 Professor Jones was President of the Manchester Medical Society, in the work of which he had always taken great interest, having been a most active member of the committee from 1875 to 1890. He was also a member of the council of the University College of Wales, in the success of which he was warmly interested and he had contributed generously to its funds.

Professor Jones was a frequent contributor to the medical journals, many of his papers being published in the *Medical Chronicle*, of which he was one of the first and most enthusiastic promoters. His articles were of a highly practical character, being based upon his personal experience and written in a characteristically terse and lucid style. He had always paid special attention to the pathology and treatment of diseases of bone, and in 1887 he published a valuable monograph on this subject which contained the results of his own observations and investigations. We believe that his last contribution to surgical literature was an article upon Injuries and Diseases of the Ankle-joint (written conjointly with Mr. J. E. Platt) which appeared last year in the first volume of the "Encyclopædia Medica" now in course of publication. Professor Jones commenced practice in Manchester on the termination of his tenure of office as house surgeon at the infirmary in 1873 and from the outset he devoted himself entirely to surgery, being one of the first to practise in the provinces as a "pure surgeon." He gradually acquired an extensive consulting practice and for many years he was regarded as one of the leading surgeons in the north of England. He was a most dexterous operator, paying great attention to detail and to the after-treatment of his cases, so that his results were attended by an unusual amount of success. As a teacher Professor Jones had established for himself a great reputation and he was held in high esteem and great respect by the students, with whom he was most popular. He was extremely regular and most indefatigable in his hospital and college duties, rarely allowing the calls of his extensive private practice to interfere with his lectures or classes in the wards.

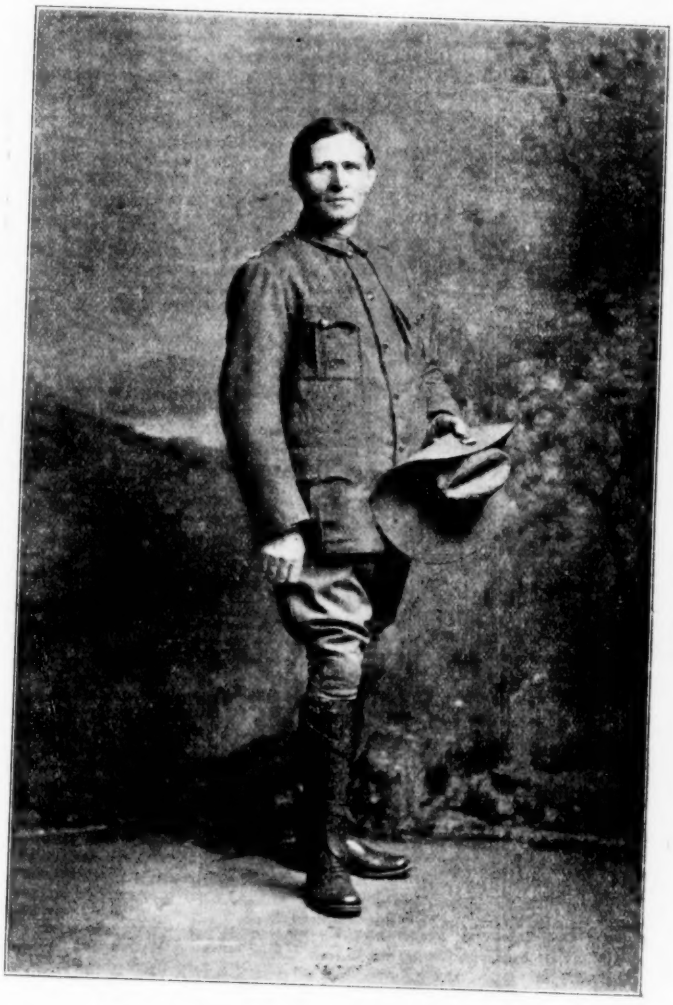
In private life Professor Jones was the most genial and kind hearted of men. The universal esteem in which he was held was shown by the large and representative attendance at the "send-off" dinner previously to his departure for Africa. The Principal of Owens College was in the chair and among those present were the Lord Mayor, the Dean of Manchester, and many other prominent citizens. A few days later when he left Manchester there was another large assemblage at the railway-station of his personal friends, colleagues, and medical students to wish him God-speed and a safe return.

On Saturday, June 23rd, a memorial service was held in Union Chapel, Manchester (of the congregation of which Professor Jones had been a member), and was very largely attended. Members of the Council and of the teaching staff of Owens College, representatives of the board of management, and almost all the members of the honorary staff of the Manchester Royal Infirmary, together with a large number of medical students, assembled at the College shortly before the time appointed for the service and marched thence in procession to the chapel. An impressive address was there delivered by the Rev. Dr. Maclaren, who described the death of Professor Jones as that of a martyr, and said that his name had been added to the long roll of members of his noble profession who had taken their lives in their hands and freely given them away on behalf of others at the call of duty.

Professor Jones married in 1881 the daughter of Mr. Boyd of Cheadle Hulme. With his widow and an only daughter who survive him very widespread sympathy will be felt in the irreparable loss which they have sustained.

An old student who was house surgeon to Professor Jones writes as follows:—

> The sad and untimely death of Professor Thomas Jones will be keenly and universally deplored by all those of us whose good fortune it has been to have received their surgical instruction under his guiding influence. As a teacher he was always held in the profoundest respect by each one of us, his punctuality and his regularity in attending to deliver his lectures and clinical demonstrations soon earned our warmest appreciation, and many a time did we feel that he had seriously inconvenienced himself in order not to disappoint us. His classes were always largely attended, and his methodical, impressive, and painstaking manner in imparting instruction to us and the kindly and courteous way in which he corrected our errors and listened even to our wildest suggestions made us feel that in him we had a most careful, considerate, and successful



THOMAS JONES, M.B., B.S. LOND., F.R.C.S. ENG.,
SURGEON TO THE MANCHESTER ROYAL INFIRMARY, ETC.

teacher, one who thoroughly understood our needs and spared no effort on his part to meet them. And, more than a teacher, we felt him to be our friend in the truest sense—always taking a personal interest in our own individual careers, ever ready to sympathise with us in present misfortunes and to encourage and advise us as to the future, and often has a kindly word from him spurred us on to further efforts, resulting in our ultimate success. His extreme gentleness and consideration towards the patients under his charge, making him beloved by them one and all, has set us a noble example of generous whole-heartedness which we would all do well to follow. When recently it became known that Professor Jones had bravely and cheerfully placed his services at the disposal of the Welsh Hospital, many were the offers from his former students to accompany him to South Africa as his assistants, and proud indeed were the four gentlemen ultimately selected to feel that they were about to help their country's cause under the guidance of one whom they valued and respected so highly. And now, with the hearty "God-speed" with which we took our farewell of the gallant little band still ringing in our ears, comes the sad news that he, of whose unselfish devotion to duty we are all so justly proud, will never return to us again, that his kindly and genial face will never more be seen in the wards with which he will always be so closely associated in our memories, and that we are left to mourn the loss of one who has proved himself a hero in every sense of the word, and our close association and friendship with whom will ever be treasured as one of the pleasantest features of our student days.

HENRY BURFORD NORMAN, F.R.C.S. ENG.

THE announcement of the death of Mr. Burford Norman on June 11th at Chesham, Bucks, has been received with great sorrow by all his friends. His father, Mr. William Norman, was also a medical man and a descendant of an old Somersetshire family—the Normans of Fiveheads. Henry Burford Norman was born on April 11th, 1819, and after a liberal education he commenced his professional training with his father. In 1837 he entered as a student at University College and his companions were Spencer Wells, John Marshall, and John Eric Erichsen. In 1841 he was admitted a Member of the Royal College of Surgeons of England, and soon after was appointed house surgeon to the distinguished Liston. He obtained the Fellowship of the College in 1846 and shortly afterwards he came forward as a candidate for the post of assistant surgeon to University College Hospital, but he was defeated by the late Sir John Erichsen. Mr. Burford Norman then started as an ophthalmic surgeon and he obtained the appointment of surgeon to the North London Eye Hospital. At this period he resided in Duchess-street, Portland-place, W. After a few years of hard work his health became seriously impaired and he was obliged to leave London for rest and retirement. He commenced practice again in 1858 at Portsmouth as the successor of the late distinguished surgeon, Dr. E. J. Scott. In 1861 he was elected on the surgical staff of the Royal Portsmouth Hospital, an appointment which he held with marked distinction for several years. He took a leading part in the foundation of the Portsmouth and South Hants Eye and Ear Infirmary, and filled the position of consulting surgeon to that institution. Mr. Norman was an able and well-known surgeon in Hampshire and he practised with much success for many years. He contributed many valuable papers on surgical topics to the medical journals. He was a Fellow of the Royal Medical and Chirurgical Society and an ex-President of the Harveian Society. Throughout his long career he enjoyed the entire confidence of the medical men of Portsmouth, and on his retirement from practice in 1889 he was entertained at dinner by his professional friends and was presented with a valuable silver service as a token of their regard and esteem.

Mr. Burford Norman was a man of sterling character and ever ready to help in every good and worthy enterprise. He was twice married and has left behind him a widow and six children. Two of his sons are members of the medical profession. By a life guided by broad and charitable sentiments and never-failing courtesy he obtained the affection and confidence of a large circle of friends.

HENRY PEACOCK, F.R.C.S. ENG., M.R.C.P. LOND.

MR. HENRY PEACOCK died at Bath on June 12th in his eighty-eighth year. Mr. Peacock received his medical education at the London Hospital and qualified as M.R.C.S. Eng. in 1837. Two years later he entered the medical service of the Royal Navy. In 1839-40 he was assistant surgeon on H.M.S. *Crocodile*, at that time engaged in suppressing the slave-trade. Mr. Peacock was afterwards appointed medical officer to the dockyard at Chatham, a post which he held for nearly 20 years, and was also staff surgeon to the Royal Dock yard Battalion from its formation until his retirement from the service. Mr. Peacock became F.R.C.S. Eng. in 1852 and 10 years later was admitted a Member of the Royal College of Physicians of London. In 1862 he commenced practice at Sudbrook (Gloucestershire) and was subsequently appointed assistant physician to the Gloucester General Infirmary and medical officer to the Gloucester Provident Dispensary. Mr. Peacock, who had retired from the practice of his profession, had recently resided at Malvern.

ARCHIBALD ADAMS, M.D., M.CH. R.U.I., F.R.C.S. IREL.,
LIEUTENANT-COLONEL INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL ARCHIBALD ADAMS, I.M.S., succumbed to an attack of cholera at Mount Abu on May 20th. He was born on March 20th, 1850. He was educated at the Royal University of Ireland and graduated M.D., M.Ch., in 1872, subsequently taking the Fellowship of the Royal College of Surgeons in Ireland in 1886. He entered the Medical Department of the Navy, passing through the Netley School in the winter session of 1872-73, and served in Africa with the Royal Marines during the Ashanti war of 1873-74, for which he received the medal. In the spring of 1875 he competed for an appointment in the Indian Medical Service and was gazetted a Surgeon on the Madras Establishment on March 31st of that year. He was duly promoted to field rank in 1887, and on March 31st, 1895, attained the rank of Lieutenant-Colonel. Not long after his arrival in India he was posted as medical officer of the Erinpoora force, a local corps under the orders of the Indian Foreign Office, and he continued under the Foreign Office during the remainder of his life. Promotion soon came to him from regimental employment to the important post of Residency Surgeon at the Court of Marwar, where, at the capital, Jodhpore, he resided for some 18 years, supervising all the medical arrangements of that wealthy State and enjoying not only a lucrative practice but also the respect and esteem of a succession of British Residents at the Court and of a circle of native friends which included the two successive Maharajas Jaswant Singh, G.C.S.I., and Sardar Singh. Only last year Lieutenant-Colonel Adams published a medico-topographical and general account of the Western Rajputana States, of which he had a rare knowledge. This work is one of great excellence, showing a mastery of facts and bearing evidence of the industry with which he applied himself to the study of the conditions affecting the health and happiness of the inhabitants of that portion of India in which his lot was cast. His hospitality while at the Court of Jodhpore was remarkable even in the hospitable community of Anglo-Rajputs, and his kindness of heart and skill will long be remembered by a very wide circle of friends who admired the sterling traits of his character.

From Jodhpore Colonel Adams was promoted to be Administrative Officer in Rajputana—a post which is regarded as the blue ribbon of the Foreign Office appointments. He has now fallen at his post of duty, a victim to that fell disease which is following in the wake of famine and is now adding to our great difficulties in India. Lieutenant-Colonel Adams was attacked by the disease at Mount Abu at the time when at Pallanpur (near Abu Road) 25,000 famine-stricken people were in the grip of cholera—and cholera of such a virulent type that some of the victims are said to have succumbed within 10 minutes of the appearance of the symptoms.

Lieutenant-Colonel Adams married only a few years ago a daughter of Lieutenant-Colonel H. B. Abbott, who was many years Political Agent at the Court of Jhallawar. To this lady our thoughts of true sympathy are extended in these days of her sudden bereavement.

CLAUDE CLARKE CLAREMONT, M.R.C.S. ENG., L.S.A.

MR. CLAUDE CLAREMONT, who died at Bognor on May 27th, in the 77th year of his age, was a well-known practitioner in North London and had an exceptionally long record of service as public vaccinator to St. Pancras parish. He received his professional education at University College, London, becoming qualified as M.R.C.S. in 1855 and as L.S.A. in 1859. In 1858 he contributed to THE LANCET an interesting case in which during the extraction of several teeth under chloroform a portion of a tooth slipped into the larynx unperceived by anyone, the first symptom of the

mishap being the fits of coughing and respiratory difficulties produced by the foreign body. The fragment of tooth was expelled on the thirty-fourth day afterwards during a fit of coughing and was found to weigh seven grains. In October, 1899, Mr. Claremont retired from practice and on this occasion a brief notice of his long public service appeared in THE LANCET of Nov. 18th (p. 1392). Mr. Claremont had seven sons, three of whom are medical men, one practising in London, one in Southsea, and one in Norwich.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ELECTION OF MEMBERS OF COUNCIL.

THE twelfth election of Fellows to fill the vacancies in the Council of the College under the new regulations was held at the College, Lincoln's Inn-fields, on Thursday, July 5th, between 1.30 P.M. and 4 P.M. The result of the voting was as follows:—

	Votes.	Plumpers.
MR. A. COOPER	304	16
MR. J. WARD COUSINS...	257	16
MR. A. PEARCE GOULD...	253	6
MR. J. TWEEDY	233	2
MR. J. BLAND-SUTTON ...	199	13
MR. R. CLEMENT LUCAS ...	170	32
MR. W. J. WALSHAM... ...	159	1
MR. H. H. CLUTTON... ...	148	11
MR. G. JORDAN LLOYD ...	138	3
MR. C. H. GOLDING-BIRD...	127	5
MR. W. H. BENNETT... ...	121	8
MR. J. A. BLOXAM	83	7

Mr. Tweedy and Mr. Cooper are therefore re-elected and Mr. Ward Cousins and Mr. Pearce Gould elected Members of the Council.

713 Fellows voted, 34 personally and 679 through the post. 4 proxies arrived too late and 3 voting papers were spoiled. The number of candidates, 12 for the four vacancies, made the election remarkable.

Medical News.

MR. BURDETT-COUTTS'S CHARGES: APPOINTMENT OF THE COMMISSION.—Mr. Balfour announced in the House of Commons on Thursday afternoon that Dr. W. S. Church, President of the Royal College of Physicians of London, Professor Daniel John Cunningham, Professor of Anatomy, Trinity College, Dublin, and Lord Justice Romer, would constitute the Commission of Inquiry to investigate the treatment of the sick and wounded in South Africa.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen having passed the necessary examinations have been admitted Licentiates in Dental Surgery and have received their diplomas:—

Robert Westmore Allen and John Bennett, Guy's Hospital Dental Department and School; Thomas Algernon Baker, Mason College, Queen's, General, and the Dental Hospital, Birmingham; Mountjoy Henry Bartlett, Wilfrid Boothby Blandy, and Herbert Bristow, Charing Cross and the Dental Hospital of London; Charles James Burton and Arthur Ernest Chaundy, Middlesex and the National Dental Hospital; Giovanni Battista Ciceri, M.D. Pavia, University of Pavia, Italy, and the Dental Hospital of London; Ernest Couchman, Guy's Hospital Dental Department and School; Henry Ormrod Dickin and Edward Entwisle, University College, Royal Infirmary, and Dental Hospital, Liverpool; Alfred Culmer Edwards, Percy Harry Furnivall, Arnold Maurice Gabriel, and John Herbert Greenwood, Guy's Hospital Dental Department and School; Claude Bolton Grenside, Robert Harold Heath, Arthur George Heydon, and Robert Hooper, Charing Cross and the Dental Hospital of London; George Henry Hiorns, Middlesex and the National Dental Hospital; Robert Howard, Ernest Guy Jones, and Samuel Kersh, Owens College, Royal Infirmary, and Victoria Dental Hospital, Manchester; William Jarvis, Leonard Adolphus Charles Knight, and Athol Lucien Lambert, Guy's Hospital Dental Department and School; William Kittow, Charing Cross and the Dental Hospital of London; Everard Foster Lane and Thomas Charles Mills, Middlesex and the Dental Hospital of London; Hector Ernest Laurence, Middlesex and the National Dental Hospital; Rowland Claude Gasson May, Charles Sculthorpe Morris, Kenneth Carrington Ness, and Sydney Lionel Prail, Guy's Hospital Dental Department and School; Percy George Pavitt and George Frederick Prickett, Middlesex and the National Dental Hospital; Walter Leslie Pearse, Charing Cross and the Dental Hospital of London; Horace Reginald Pring, M.R.C.S. Eng., St. Thomas's and the Dental Hospital of London; Ralph Bertram Recordon, William Radley Searle, Harvey Llewellyn Shelton, and Alfred Montague Austin Stevens, Guy's Hospital Dental Department and School; Samuel Henry Roe, Harold Round, and Herbert Steynor Steynor, Mason College, Queen's, General and the Dental Hospital, Birmingham; Ernest George Simmonds, M.R.C.S. Eng., St. Bartholomew's and the National Dental Hospital; Percival Frank Swabey, Albert Edward Toogood, William White, and Reuben Archibald Winder, Charing Cross and the Dental Hospital of London; John Newsome Taylor, University College Royal Infirmary and Dental Hospital, Liverpool; and Jacob Louis Wartski, Guy's Hospital Dental Department and School.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen have passed the Second Examination of the Board in the subjects indicated:—

Monday, July 2nd:

Anatomy and Physiology.—Henry William John Hawthorn, Herbert Frank Marshall, Seymour Gilbert Barling, Cuthbert Keary Gettings, Robert Beatson Dennis Hird, James Archibald McIlroy, and Edward Brown Garrard, Mason University College, Birmingham; Ian Canute Gordon Glassford, Melbourne and Edinburgh Universities; Harry Reginald Burpitt and Hector Jones, University College of South Wales, Cardiff; Edward Aubrey Guy Wilkinson, Oxford University; George Hamilton, Otago University and Middlesex Hospital; William Tudor Webb, University College, Bristol; Harold Joseph Moon, Owens College, Manchester; William Phillips Jones, Firth College, Sheffield; George Raymond, St. Thomas's Hospital; Frank Herbert Wood, George Henry Adam, and William Bradshaw Ainger, St. Bartholomew's Hospital; Norman Bremer Vickers Jacob, London Hospital; Gerald Bade Bellamy, Charing Cross Hospital; and Arthur Frederick Cole, St. Mary's Hospital.

14 gentlemen were referred to their professional studies for three months.

Tuesday, July 3rd:

Anatomy and Physiology.—Wilfrid Ashwell Aldred, Thomas Waycott Chaff, John Wheeler Cleveland, Frederick Spencer Lister, and Harry Theodore Wilson, St. Bartholomew's Hospital; John Avery, Harold Munro Scott, and Cecil Colmer, London Hospital; Herbert Ernest Batten, Edward Guy Anthonisz, and Rupert Butterworth, St. Mary's Hospital; William Athol Desmond King, Middlesex Hospital; Welby Earle Fisher, Philip Henry Seal, and Isidor Tritsch, University College, London; Ernest Ulysses Williams, Sebastian Gilbert Scott, and George Hope Warren, King's College, London; Malcolm Winfrid Shutte and Philip Reginald Humphry, St. George's Hospital; Bernard Higham and James Hornidge Chauncy, St. Thomas's Hospital; Robert Edward Brayne, Walter Woolfe Read, and Guy Leslie Buckridge, Guy's Hospital.

11 gentlemen were referred to their professional studies for three months.

FOREIGN UNIVERSITY INTELLIGENCE.—*Bologna:* Dr. Alessandro Codivilla of Turin has been recognised as *privat-docent* of Surgery.—*Chicago* (*Rush Medical College*): Dr. Daniel R. Brower has been appointed Professor of Neurology and Psychiatry. Dr. W. H. Welch, of the Johns Hopkins University, has been appointed Professor of Therapeutics and Materia Medica.—*Genoa:* Dr. Carlo Orrecchia of Turin has been recognised as *privat-docent* of Surgery.—*Gratz:* Dr. A. Birnbacher, extraordinary Professor of Ophthalmology, has been appointed ordinary Professor.—*Jena:* Dr. Hartmann has been recognised as *privat-docent* of Surgery.—*Leipsic:* An institute of forensic medicine has been recently established, the charge of which has been intrusted to Professor Kockel.—*Lille:* Dr. Calmette has been appointed Professor of Hygiene and Bacteriology.—*Messina:* Dr. Ernesto Tricomi of Padua has been appointed Professor of Clinical Surgery and Operative Medicine.—*Montpellier:* Dr. Bosc has been appointed Professor of Pathological Anatomy.—*Prague* (*Bohemian University*): Dr. Franz Scherer, *privat-docent* of Diseases of Infants, has been promoted to an extraordinary Professorship.—*St. Petersburg* (*Military Medical Academy*): Dr. Blumenau has been recognised as *privat-docent* of Internal Medicine and Dr. Oleinikoff as *privat-docent* of Bacteriology.—*Strasburg:* Dr. Funke has been recognised as *privat-docent* of Midwifery and Gynæcology and Dr. Landolt as *privat-docent* of Ophthalmology.—*Yale:* Dr. Moses C. White, Professor of Pathology for the last 33 years, has become Emeritus Professor; Dr. Bartlett has been appointed to succeed him. Dr. Benjamin Moore, Professor of Physiology, has resigned, having been appointed to the Lectureship in Charing Cross Hospital, London. Dr. Otto G. Ramsay of the Johns Hopkins University has been appointed to the Chair of Obstetrics and Gynæcology.

METROPOLITAN HOSPITAL SATURDAY FUND.—Oct. 13th is the date set apart for the "Special" Hospital Saturday Collection for the current year.

THE LIVINGSTONE MEDICAL COLLEGE.—The committee of this institution has purchased the mansion, which includes about two acres of adjoining woodland, lately in the occupation of the Barclay family of Knotts Green, Leyton, Essex. The college is intended for the primary medical training of candidates for foreign missionary work.

PRESENTATIONS.—Mr. Richard Ellery, L.R.C.P., L.M. Edin., M.R.C.S.Eng., L.S.A., who is leaving Plympton, Devon, after a residence in the village of 35 years, was on June 16th presented with a silver salver together with a list of the subscribers, numbering about 150. Mrs. Ellery was presented with a purse of gold.—On the occasion of his recent marriage the Æsculapian Society of London presented Mr. W. Campbell M'Donnell, L.R.C.P. Lond., M.R.C.S., with a table and chair for his consulting room, a gratifying recognition of his services as honorary secretary to the Society.

GUY'S HOSPITAL PRIZE DAY.—On July 4th at a garden party given by the governors and medical staff of Guy's Hospital, the prizes and medals were presented to the successful students by the Right Hon. the Earl of Pembroke and Montgomery, G.C.V.O. A large company assembled in the theatre in the new school buildings to witness the ceremony, Mr. Cosmo Bonsor, M.P., being in the chair. After Lord Pembroke had given the awards and addressed the students and guests, Dr. Frederick Taylor moved a vote of thanks to his lordship, which was seconded by Dr. Stevenson. A move was then made to the grounds, where the band of the Scots Guards played a lively selection of melodies. The hospital and school buildings were opened for inspection, and refreshments were served in the quadrangle of the surgical buildings.

THE CONVERSAZIONE AT THE POLYCLINIC.—The conversazione given by the president and council of the Medical Graduates' College and Polyclinic on July 4th was a most successful affair. About 900 medical men were present. The occasion was the inauguration of the museum and an oration by Professor Osler of Baltimore on the Teaching of Practical Medicine. The ceremony of inauguration by the President, Sir William Broadbent, Bart., was witnessed by a crowded assembly who accorded Mr. Hutchinson, after whom the museum is named, a hearty reception. The oration was then delivered in the lecture hall by Professor Osler, who spoke for nearly an hour and whose words elicited much applause. The entire building was then thrown open for inspection and, in addition to demonstrations and exhibitions in the different departments, a good programme of music by the London Orchestral Band enlivened the proceedings.

SOCIETY FOR THE STUDY OF CHILDREN'S DISEASES.—On June 11th a well-attended meeting took place at 20, Hanover-square, London, W., for the purpose of discussing the advisability of founding a society for the study of children's diseases. Dr. Arthur E. Sansom occupied the chair. Mr. Clement Lucas proposed and Dr. Fletcher Beach seconded the following motion—viz., "That in the opinion of this meeting it is advisable to form a society for the purpose of studying the diseases of children." The motion was supported by several speakers, including Dr. E. Cautley and Dr. W. C. Chaffey (Brighton) and Mr. J. Jackson Clarke, Mr. F. Churchill, and Mr. Alfred H. Tubby. After some discussion, during the course of which it was stated that the new society would be largely clinical, and that its meetings would probably be held at the various hospitals in London and in the provinces, Mr. Lucas's motion was carried *nem. con.* A provisional committee, consisting of the following gentlemen, was appointed to draw up rules and to make necessary arrangements:—Mr. Henry G. Armstrong (Wellington College), Dr. Henry Ashby (Manchester), Dr. Wayland O. Chaffey (Brighton), Dr. Arthur Downes (Local Government Board), Mr. Walter Edmunds, Dr. Theodore Fisher (Bristol), Mr. Jonathan Hutchinson, sen., Dr. David B. Lees, Mr. Clement Lucas, Mr. Howard Marsh, Dr. Lewis Marshall (Nottingham), Dr. John McCaw (Belfast), Mr. D'Arcy Power, Dr. Humphry D. Rolleston, Dr. Arthur E. Sansom, Dr. George E. Shuttleworth, Dr. Harold J. Stiles (Edinburgh), Dr. George A. Sutherland, Mr. Alfred H. Tubby, Dr. Dawson Williams, and Mr. Sydney Stephenson (honorary secretary *pro tem.*).

MEDICAL MAGISTRATE.—The Lord Chancellor has appointed Mr. C. H. Johnson, M.R.C.S., a Justice of the Peace for the borough of Basingstoke.

DR. JOHN CROPPER was on June 25th returned at the head of the poll at the Port Skewett (Mon.) School Board election.

CENTENARIANS.—Sarah Priest, who is in her 104th year, applied to the Bath Board of Guardians on June 13th for outdoor relief.—Miss M. A. G. Strachan, who celebrated her 100th birthday in February last, died at College-green, Bristol, on June 18th.

A CURIOUS DENTAL ACCIDENT.—A curious accident is reported in the *Indian Medical Record* of June 6th. A boy, aged nine years, whilst attending a cow was horned by it in the face. The effect of the blow was to drive the left central incisor through the alveolar process into the incisor fossa, from which it was easily removed by means of suitable forceps. The remarkable feature about the accident was that the blow inflicted no other injury in the mouth. The tip of the horn must just have caught the cutting edge of the incisor tooth.

THE NEW JENNY LIND INFIRMARY FOR SICK CHILDREN, NORWICH.—On June 30th the Prince and Princess of Wales were present at the formal opening of this institution. The ceremony was performed by the Princess. This infirmary has been erected as a memorial of the Queen's Diamond Jubilee at a cost, including equipment, of £14,000. For the endowment fund the sum of £10,000 has been subscribed, but £4000 are still required. It may be stated that Mr. Otto Goldschmidt, husband of the late Madame Jenny Lind, and their son and daughter witnessed the interesting ceremony.

AMERICAN ODDFELLOWS AND THE FAITH-HEALERS.—The Supreme Lodge of the Knight of Honour of the United States, which is stated to be the most powerful body of Oddfellows in America, has decided to decline as members all persons associated with the body known as Christian Scientists. Statistics in America prove that the mortality amongst the faith-healing fraternity, who decline the services of medical men, is so high that their membership in a society of persons coöperating for mutual general assistance becomes very undesirable.

SHORTHAND FOR MEDICAL STUDENTS.—The Society of Medical Phonographers offers for competition among registered medical students two prizes, each of the value of £5, one for those studying in England and one for those studying in Scotland or Ireland, for proficiency in the groundwork of phonetic shorthand (phonography). A second prize will be given in each case, consisting of one year's free membership of the society and a selection from its shorthand publications. The examination will be held the first week in November simultaneously in London, Edinburgh, and Dublin, and at any provincial medical school in the United Kingdom at which not fewer than three candidates shall offer themselves. Intending candidates are requested to send in their names at as early a date as possible to the examination secretary (Dr. E. B. Gray, Oxford), who will inform them in due course as to the precise date and place of examination at each centre.

LITERARY INTELLIGENCE.—Messrs. Rebman, Limited, announce the following new books as just issued:—"The International Text-book of Surgery," by British and American authors, in two volumes, edited by A. Pearce Gould, M.S. Lond., F.R.C.S. Eng., of the Middlesex Hospital, and J. Collins Warren, M.D., LL.D., of Harvard Medical School; "An Entirely New Cyclopædia of Practical Medicine and Surgery," in one volume, illustrated, by 70 special contributors, compiled under the editorial supervision of Dr. George M. Gould and Dr. Walter L. Pyle of Philadelphia; "A Text-book of Pharmacology and Therapeutics, or the Action of Drugs in Health and Disease," by Dr. Arthur R. Cushny; "The Gross and Minute Anatomy of the Central Nervous System," by Dr. H. C. Gordinier; "Gould's Yearbook of Medicine and Surgery for 1900," in two volumes (Medicine and Surgery).—The same publishers also announce the following for early publication: Vol. II. of Professor

Deaver's work on "Surgical Anatomy"; a new book by Mr. A. Marmaduke Sheild entitled "The Causes, Consequences, and Treatment of Nasal Obstruction"; and "A Treatise on the Theory and Practice of Medicine for Students and Practitioners," by Dr. H. W. Syers of the Great Northern Central Hospital, London.

EDINBURGH UNIVERSITY UNION.—On Friday, June 29th, an interesting dinner was given in the Royal Hotel, Edinburgh, by members of the classes of surgery, midwifery, and clinical surgery of the University of Edinburgh. The dinner was in honour of Mr. H. J. Stiles, Dr. W. Fordyce, and Mr. Bowden, the assistants in the above classes, who were retiring from their respective posts. Mr. J. C. Mitchell, D.Sc., presided over a gathering of more than 100 gentlemen, among whom were Dr. G. A. Gibson, Mr. F. M. Caird, Dr. F. W. N. Haultain, and other colleagues of the guests.

BRUSSELS MEDICAL GRADUATES' ASSOCIATION.—The annual general meeting of this association took place on July 3rd at the Café Royal, Regent-street. Dr. J. R. Gabe was elected President for the forthcoming year and Dr. A. L. Achard Vice-president. Dr. E. G. Younger and Dr. Major Greenwood were unanimously re-elected respectively treasurer and honorary secretary. The members and their friends afterwards dined together. After the usual loyal toasts, Mr. Howard Marsh proposed the "Health of the Association." This was responded to by Dr. Greenwood, who said that the association was not in favour of the reciprocity scheme brought before the General Medical Council at its last session, and that although their members claimed the right to register foreign degrees in addition to English qualifications they were strongly opposed to the registration of practitioners possessing only foreign ones. The President proposed "Our Guests," and the toast was responded to by Dr. Vivian Poore and Dr. Gilbart Smith. The Amphion Gleemen, under the direction of Mr. Sidney Marion, gave a selection of glees and songs during the evening.

NEW PHYSICAL LABORATORY FOR OWENS COLLEGE.—The new physical laboratory of Owens College, Manchester, was opened on June 29th by Lord Rayleigh. The building stands opposite to the College in Coupland-street, contains about 40 rooms, and is provided with a great variety of valuable apparatus and machinery. On the roof there is an observatory with a 10-inch telescope. The electro-chemical and electro-technical departments are specially dedicated to the memory of Dr. John Hopkinson. A sum of £23,000 has been laid out upon the building and a further amount of £10,000 is to be spent upon the equipment. The executors of the late Mr. John Harling have given £5000 for the purpose of endowing a research Fellowship. In declaring the building open Lord Rayleigh said that Professor Arthur Schuster who presides over the laboratory was an old friend of his, and that 20 years years ago they worked together on the subject of electrical units. When he was a young man he had not at his disposal anything approaching the facilities for practical and experimental work which were to-day provided in this laboratory.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Registered Companies and Medical Practice.

ONE of the clauses of the Companies Bill proposes that it shall be unlawful for a registered company to carry on medical practice. Another says that no such company may carry on the business and use the description of a pharmaceutical chemist or chemist and druggist unless the business is *bonâ fide* conducted by a manager or assistant who is duly registered. Both these clauses were discussed on Tuesday, July 3rd, when the Bill came before the Grand Committee of the House of Commons on Trade. Mr. RITCHIE the Minister in charge of the Bill, suggested that they should be deleted, giving as his opinion that they were not germane to the Bill and that their appearance in it would jeopardise its passage. Sir HENRY FOWLER defended the clauses as both appropriate and necessary, and the majority of the Committee taking the same view determined by 17 to 12 votes to retain both clauses. Mr. MARKS proposed to insert in the medical clause words to the effect that nothing in it should prevent a company from making a contract with a physician or surgeon for services rendered or to be rendered at the request of the company, or from making any contract with any person in respect of the services of a physician or surgeon who is under contract with the company. The ATTORNEY-GENERAL gave the opinion that the amendment was unnecessary, and Mr. Marks did not press it.

Amendment of the Medical Acts.

The Bill drafted by the General Medical Council for the amendment of the Medical Acts will be introduced into the House of Commons on Friday, July 13th, by Sir RICHARD JEBB, one of the Members for the University of Cambridge. The Bill deals mainly with the disciplinary powers of the General Medical Council and the medical licensing authorities.

HOUSE OF COMMONS.

THURSDAY, JUNE 28TH.

Volunteer Medical Officers.

Sir HOWARD VINCENT asked the Under-Secretary of State for War if, having regard to the fact that the medical experience of a surgeon in the volunteer force could not be increased by his watching men going through field training for 14 days, the pay and allowances of one medical officer for the whole period of camp could be sanctioned and its allotment be left to the commanding officer among such of the surgeons of a regiment whose practice enabled them to be present on certain days.—Mr. WYNDHAM: The suggestion will be considered.

Inoculation of the Troops against Enteric Fever.

Mr. WYNDHAM, replying to a question on this subject, said that the operation was entirely voluntary. There was no idea of making an experiment on the troops going out to South Africa. The credit of suggesting inoculation belonged to the Professor of Pathology at Netley Hospital.

The St. Pancras Lunacy Scandal.

Mr. JOHN BURNS asked the President of the Local Government Board whether he had considered the advisability of holding a Local Government Board inquiry into the irregularities committed by the relieving officers of St. Pancras.—Mr. CHAPLIN: I have directed an investigation by the Local Government Board into this matter. Pending the inquiry I have directed a communication to be made to the metropolitan boards of guardians to the effect that in the opinion of the Board such practices are altogether indefensible.

FRIDAY, JUNE 29TH.

Army Medical Department.

Sir CHARLES DILKE asked the Under-Secretary of State for War whether the report of the Departmental Committee which was sitting in 1898 on the Re-organisation of the Army Medical Department was presented to Parliament, and if not, whether the portion of it which bore on organisation for war could now be laid before Parliament.—Mr. WYNDHAM replied: The Committee to which the right hon. baronet referred only considered the titles to be given to the corps and to the officers and the command to be exercised by the officers. No question of organisation came before it.

Sir Walter Foster's Offer to the War Office.

Sir HENRY FOWLER asked the Under-Secretary of State for War whether, in October last, he received a letter from the honourable Member for Ilkeston (Sir Walter Foster) pointing out that in all probability great loss of life from fever and other maladies, more or less preventable by careful sanitary work, was likely to occur in the South African campaign, and suggesting the appointment of a small sanitary commission, or a commissioner and assistants, to proceed to South Africa to assist the army medical officers in preventing the dangers referred to; whether the honourable Member offered to place his services and his experience as a physician and as secretary of the Local Government Board during the last invasion of cholera, at the disposal of the War Office in an unpaid capacity; and whether the suggestion and offer were declined by the Secretary of State on the ground that the need of special assistance was not the same in sanitary matters as in surgical operations.—Mr. WYNDHAM replied: Yes, sir; the facts are as stated. Army surgeons are not in constant practice as operators, and therefore the Secretary of State was very glad to avail himself of the patriotic offers made by Sir W. Mac Cormac, Mr. Treves, and other specially skilled surgeons. But army medical officers have special training in sanitation of camps and the management of diseases incidental to field service and abundant opportunities of obtaining experience in these matters. It did not, therefore, appear that there was any occasion for the appointment of such a sanitary commission as the hon. Member proposed.

Strength of the Medical Staff in South Africa.

Mr. WYNDHAM, replying to questions on this subject, said that for each increase of the force in South Africa a proportionate increase of medical staff and medical stores had been made. There were now in South Africa, according to their latest information, 466 army medical officers and 440 civilian surgeons, 566 female nurses, and 5668 male nurses and orderlies. These did not include doctors and nurses engaged in South Africa. The supply of beds was on June 16th 5000 in Natal and 13,600 in Cape Colony and other parts, total 18,600 beds in South Africa.

Debate on the Medical Arrangements in South Africa.

The House devoted nearly eight hours of this sitting to a debate on the medical arrangements in South Africa which had been impugned by Mr. Burdett-Coutts in a series of articles in the *Times* and had been the subject of question and answer across the floor of the House at several previous sittings. The debate took place in Committee of Supply, the Government putting up for the purpose a purely nominal supplementary vote for the Army Medical Department. The speeches delivered were too numerous and dealt too much with matters of detail to be reported or even to be summarized in this column and no doubt our readers will have seen reports of them in the

lay press. Before the debate began Members had in their hands copies of a telegram from Lord Roberts in which his lordship suggested that a small committee should be deputed to proceed to South Africa in order to inquire into and furnish a full report on the working of the medical arrangements throughout the war, and they had before them the promise of Mr. Balfour that the Government would adopt this suggestion.

MONDAY, JULY 2ND.

Inoculation against Typhoid Fever.

Mr. JOSEPH A. PEASE asked the Under-Secretary of State for War whether the medical expert at Netley Hospital who recommended the inoculation with so-called anti-typhoid serum of troops sent to South Africa had sold serum to the Government; if so, how many doses were purchased from him, and at what price; and whether the doctor had pecuniarily profited by the sale of serum.—Mr. WYNDHAM: No, sir, there is no pecuniary profit.—Mr. PEASE: Were any doses sold?—Mr. WYNDHAM: My information is that there was no sale or profit to anybody concerned.

Outfit Allowance for the Royal Army Medical Corps.

Mr. MACNEILL asked the Financial Secretary to the War Office would he explain why, when all officers of the Reserve rejoining under Paragraph 483, Clause C, of the Royal Pay Warrant (whether ordered on active service or otherwise), had been granted an outfit allowance of £100 to cover the expense of providing themselves with the necessary uniform, exception had alone been made in the case of officers of the Royal Army Medical Corps, and would he say whether the word "officer," used in Part I. of the Royal Warrant, included medical as well as officers of any other corps.—Mr. POWELL WILLIAMS: Outfit allowance will be granted in these cases.

Medical Men and the Housing of the Working Classes.

Sir WALTER FOSTER during the report stage of the Housing of the Working Classes Act (1890) Amendment Bill moved to insert in the Bill the following new clause—viz.: 1. "It shall be the duty of the medical officer of health of every rural sanitary district to represent to the local authority of that district any parish or other area within that district where danger arises to the health of the inhabitants of such parish or area from the insufficiency or unwholesomeness of the existing supply of lodging-houses for the working-classes. 2. If in any rural sanitary district any four or more householders living in or near to any parish or other area in such district complain in writing to the medical officer of health of that district that danger arises to the health of the inhabitants of such parish or area or of such district from the insufficiency or unwholesomeness of the existing supply of lodging-houses for the working classes in such parish or area he shall forthwith inspect the same and transmit to the local authority the said complaint and his opinion thereon, and if he is of opinion that danger does arise as aforesaid shall represent such parish or area to the local authority, but the absence of any such complaint shall not excuse him from the duty of making a representation under sub-section one of this section when necessary. 3. If within three months after receiving the said complaint and opinion or representation of the medical officer the local authority declines or neglects to take any proceedings to put this part of the Act in force, the householders who signed such complaint may petition the Local Government Board for an inquiry, and the said Board after causing an inquiry to be held may order the local authority to proceed under this part of this Act, and such order shall be binding on the local authority." Sir Walter Foster said he was anxious that there should be some means of calling the attention of the local authority to their neglect of the intentions of the Legislature and he could not think of any more suitable means than the medical officer of health who was familiar with the conditions and circumstances of the locality. With regard to the third sub-section of the clause he was aware that there might be objection to the interference of the Local Government Board and therefore he would be prepared to substitute the County Council.—Mr. CHAPLIN, the Minister in charge of the Bill, intimated that he could not accept the clause. He was advised, and he was satisfied, that much that the hon. Member had in contemplation could be done under the existing law. He attached great importance to the medical officer of health, but he did not think the position of that officer would be improved by this clause. The position of the medical officer of health would have to be considered some day. To make him really efficient he would have to be put in quite a different position from his present position, but the thing would require to be done in a Bill for the amendment of the Public Health Acts; he did not think it could be dealt with in this Bill. With regard to the third sub-section, he had considered the matter very carefully, and he had come to the conclusion that if pressure of this kind was to be brought to bear it should be brought to bear through the County Council and not through the Local Government Board. The former was a representative body and it had the great advantage of local knowledge.—After some further discussion Sir WALTER FOSTER withdrew his proposed new clause, and there was inserted in the Bill a clause empowering the County Council to take action in cases where the rural council had been guilty of default.

PROPOSED EXEMPTION OF HOSPITALS FROM LOCAL RATES.

EVIDENCE BEFORE THE SELECT COMMITTEE.

The Select Committee of the House of Commons appointed to inquire into the proposed exemption from local rates of hospitals and institutions for the education and treatment of idiots and imbeciles met again on Friday, June 29th, with Mr. T. W. RUSSELL, Parliamentary Secretary to the Local Government Board, in the chair, and proceeded with the examination of witnesses.

Sir WILLIAM HART DYKE, M.P. for the Dartford division of Kent, explained that owing presumably to the salubrity of the district of Dartford there had been planted there a large number of charitable institutions, some supported wholly by voluntary contributions and others rate-aided, proceeding directly or indirectly from Acts of Parliament, and he submitted that in the matter of rating a clear distinction should be drawn between institutions planted in such a district on behalf of the inhabitants of a distant community and supported by these inhabitants and institutions designed to meet purely local wants. At the present moment contracts were out for the construction of a small-pox hospital in the district which was to cost over £200,000. If such an institution were exempted from rates he thought the locality would have a distinct grievance and he would remind the Committee that institutions of this description were a nuisance and a detriment to the prosperity of a district. Already they had in the district institutions metropolitan in character and object, such as a home for waifs and strays, convalescent homes, an asylum for idiots, and the City of London Asylum. He thought it would be a great hardship to the Isle of Wight if the Hospital for Consumption at Ventnor were exempted from local rates, seeing that the institution was designed for the use of patients from a distance. In the case of the cottage hospital at Dartford, a local institution, no rates were paid. He would not like to leave the rating of hospitals to the discretion of local authorities, because the result would be uncertain; he would rather have the matter settled once and for all by Parliament. He frankly admitted that the case was not free from difficulty, especially when they had to deal with institutions which were both local and general in their character.

Mr. BARTON, Commissioner of Valuation in Ireland, called in connexion with the evidence given by Mr. Manders of the Irish Office, gave an account of the system of valuation in Ireland. He explained that there were no local valuation committees in Ireland, the whole valuation work of the country being done by his department. He cited the Acts of Parliament which govern that work and which exempt from local rates institutions used exclusively for scientific and charitable purposes. In Dublin, where there were many hospitals, some with paying beds, none paid rates, and the corporation in addition contributed £10,000 or £11,000 every year towards the cost of the maintenance of the hospitals. There was a feeling in Dublin that exemptions had been carried too far and probably some change would be made in the future. He was now engaged in the revision of the valuation of Belfast, and he proposed, subject of course to the appeal of the courts which was always open to those concerned, to make a change in his procedure. He proposed in the case of hospitals with paying beds to make two valuations—one in respect of the paying beds and the other in respect of the free beds. The latter would be free from rates, while the former would have to pay a certain contribution. If he found a case where a hospital with paying beds had a deficit on its working he should in such circumstances only make a nominal charge. This would be an entirely new departure in Ireland. He would value paying beds on a much lower scale than he would value ordinary houses or shops.

The Marquis of BRISTOL gave evidence with regard to the claim for exemption made by the Eastern Counties Asylum for Idiots and Imbeciles, Colchester. He complained of the manner in which the assessment of the asylum had been raised by the local authority, and said he wished to see this institution and similar institutions exempted by Act of Parliament and not left at the mercy of local authorities. This being his view he did not think that a discretionary power vested in the local authorities would meet the case. He considered that such institutions should be free from the school rate and the poor rate, but that they might be called upon to contribute towards the district rate from which they derived some benefit.

Mr. JOHN J. C. TURNER, superintendent and secretary of the asylum, also gave evidence. He stated that institutions for the education, training, and care of idiots and imbeciles had been established by private benevolence and were really voluntary schools for imbecile children as well as homes for adult idiots. They were supported by voluntary contributions and were managed by committees of noblemen and gentlemen who gave their services gratuitously. These institutions were registered under Act 49 & 50 Vict., cap. 25, and existed for the benefit of the poorer classes whose imbecile children if not taken care of and educated therein would in many instances have to be supported out of the poor rates. Such institutions also received cases upon various rates of payment, and in four of these institutions cases were likewise received from boards of guardians upon payment at rates varying from 10s. 6d. a week. Any profit that might accrue either from private payment or boards of guardian cases went towards the support of free cases. The employés in these institutions, from the superintendent downwards, were all paid by salary, and were not in any way dependent on any profit that might be made from the reception of payment cases. Such institutions received no subsidy from the Treasury or any educational grant, and were heavily handicapped by having to pay local rates, especially school board and poor rates, from which they derived no benefit. Witness handed in the following table of figures with reference to the five institutions in England and the one in Scotland, viz.:—

Institution.	No. of beds.	Assessment.	School Board and poor rates for 1899.	District rates for 1899.
Earlswood, Surrey	700	£2973	£166 6 8	£426 18 10
Royal Albert Asylum, Lancaster	640	1333	127 0 2	10 17 9
Eastern Counties Asylum, Colchester	235	600	129 17 3	91 16 2
Western Counties Asylum, Starcross	250	561	79 7 3	6 1 9
Midland Counties Asylum, Knowle...	72	216	23 15 3	11 16 8
Scottish National Institution, Larbert	280	508	56 9 4	85 13 11

Mr. HAYWARD, clerk to the Dartford Board of Guardians, was the last witness examined and gave evidence in corroboration of Sir William Hart Dyke. He stipulated that there should be no exemption unless there was local benefit.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

ADYE, WILLIAM JOHN ALEXANDER, M.R.C.S., L.S.A., has been appointed Medical Officer to the Bradford-on-Avon Workhouse by the Bradford-on-Avon (Gloucestershire) Board of Guardians.

BENNETT, JOHN, M.B., B.Ch. Irel., has been appointed Medical Officer for the Borough of Hyde, Cheshire.

CHILCOTT, R. S., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Itchen Urban District Council.

COOKSON, A. N., M.R.C.S., has been re-appointed Medical Officer of Health for the Nuneaton Sanitary District, Nuneaton Union.

DIXON, A., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the Eighth Sanitary District of the Preston Union.

EMMETT, RICHARD, M.R.C.S., L.R.C.P., L.S.A., has been appointed Medical Officer to the Portsmouth Post Office, vice F. W. Way, retired.

FERGUSON, R. B., M.D. Camb., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the New Southgate District.

FLEMMING, CHARLES E. S., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the No. 1 District by the Bradford-on-Avon Board of Guardians.

FRASER, P., M.D. Edin., has been re-appointed Medical Officer of Health for Carnarvonshire.

GARNER, J. E., M.D. Aberd., has been re-appointed Medical Officer for the First Sanitary District of the Preston Union.

GILLETT, J. F., M.B., B.C. Camb., has been appointed Medical Officer for the Second Sanitary District of the Andover Union, vice L. W. Oliver, resigned.

GIMSON, K.C., M.B., B.C. Camb., has been appointed Medical Officer to the Urban District Council, Witham.

HAMILTON, D. L., L.R.C.P., F.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Timsbury Sanitary District of the Clutton Union, vice F. Woods, resigned.

HANNAH, E. W. ST. CLAIR, M.B., Ch.B. Aberd., has been appointed House Surgeon to the Kent County Ophthalmic Hospital, Maidstone, vice Percy E. Turner, resigned.

HARGREAVES, J. A., M.B., C.M. Aberd., has been re-appointed Medical Officer of Health by the Wetherby Rural District Council.

LEIGH, WILLIAM WATKIN, L.R.C.P., L.M. Edin., M.R.C.S., L.S.A., has been re-appointed Medical Officer for the Llanvabon District by the Pontypridd Board of Guardians.

LIMRICK, W. S., L.R.C.P., L.R.C.S. Edin., has been re-appointed Medical Officer of Health for the Great Crosby Urban Sanitary District.

MACKEITH, J. M.B., C.M. Glasg., has been appointed Medical Officer to the Exeter Dispensary.

MARSHALL, C. DEVEREUX, F.R.C.S., has been appointed Assistant Surgeon to the Royal London Ophthalmic Hospital, City-road (Moorfields).

MOXON, HENRY J., L.D.S., R.C.S. Irel., has been appointed Dental Surgeon to the County Council's School at Feltham.

PICKARD, RANSOME, M.S., M.D. Lond., has been appointed Medical Officer to the Exeter Dispensary.

PLATT, J. E., M.S. Lond., F.R.C.S. Eng., M.D. Lond., has been appointed an Honorary Assistant Surgeon to the Royal Infirmary, Manchester, vice G. A. Wright.

SMITH, G. H., M.B., C.M. Aberd., has been appointed Medical Officer of the Workhouse, the Bucklow Union, vice T. J. Appleby, resigned.

THYNE, T., M.D. Edin., F.R.C.S. Eng., has been re-appointed Medical Officer for the Mill Corner and Cockfosters Sanitary District of the Parish of Enfield.

WRIGHT, G. A., F.R.C.S. Eng., has been appointed Honorary Surgeon to the Royal Infirmary, Manchester, in succession to Thomas Jones, deceased.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Church-street, Birmingham.—Assistant House Surgeon. Salary £60 per annum, with apartments and board.

BRECON INFIRMARY, No. 6, Bulwark, Brecon, South Wales.—Resident House Surgeon, unmarried. Salary £100 per annum, with furnished apartments, board, attendance, fire, and gas.

BRIDGWATER INFIRMARY.—House Surgeon. Salary £80 per annum with board and residence.

BRISTOL EYE HOSPITAL.—Locum Tenens for the House Surgeon for two months. Salary 2½ guineas a week, without residence.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Surgeon. Salary £120 per annum, with rooms and attendance (not board), or £80 per annum, with board.

CARDIFF INFIRMARY.—Assistant House Physician for six months. Salary at the rate of £75 per annum, with board, washing, and apartments.

CENTRAL LONDON SICK ASYLUM DISTRICT HOSPITAL, Cleveland-street, W.—Medical Officer as Locum Tenens. Salary £3 3s. weekly, with board, lodging, and washing.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Resident Medical Officer for twelve months. Salary £60 per annum. Also Registrar. Annual re-appointment, but tenable for three years. Honorarium 20 guineas per annum.

CHESTER GENERAL INFIRMARY.—Assistant House Surgeon for six months. Salary at the rate of £60 per annum, with residence and maintenance in the house.

CLAYTON HOSPITAL AND WAKEFIELD GENERAL DISPENSARY.—Junior House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing.

CORNWALL COUNTY ASYLUM, Bodmin.—Locum Tenens for one month or more. Terms £3 3s. and all found, with second class return fare.

CORPORATION OF BIRMINGHAM.—CITY HOSPITAL, Lodge-road.—Second Assistant Medical Officer. Salary £120 per annum, with board, residence, &c.

COUNTY ASYLUM, Rainhill, near Liverpool.—Assistant Medical Officer as Locum Tenens for a few weeks. Salary £3 3s. per week, with furnished apartments and board.

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon for 12 months. Salary £80, with board, residence, and washing.

DERBYSHIRE ROYAL INFIRMARY, Derby.—Assistant House Surgeon for six months. Salary £30 for that period, with board, residence, and washing.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—House Surgeon and Assistant House Surgeon for twelve months. Salary of House Surgeon £100 per annum. Assistant House Surgeon £50, with furnished apartments, board, and washing in both cases.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY, Dumfries.—House Surgeon. Salary £50 per annum, with board and washing.

DURHAM COUNTY ASYLUM, Winterton, Perryhill.—Junior Assistant Medical Officer. Salary £140, rising to £160 by annual increments of £10, with board, laundry, and attendance.

EAST SUFFOLK AND IPSWICH HOSPITAL, Thorofare, Ipswich.—Second House Surgeon for twelve months, unmarried. Salary £60, with board, lodging, and washing.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—Senior House Physician for six months. Salary at the rate of £60 per annum, with board, lodging, and washing in the Hospital.

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE, Virginia Water, Surrey.—Junior Assistant Medical Officer. Salary £100 per annum, rising £20 annually to £200, with board, lodging, washing, and attendance.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, London.—House Physician for six months, unmarried. Salary £20, with board and residence in the hospital.

HUDDERSFIELD INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

HULL CITY AND COUNTY LUNATIC ASYLUM.—Second Assistant Medical Officer at the Asylum, Willerby. Salary £120 per annum, rising £5 per annum to £150, with board, apartments, and washing. Applications to the Clerk to the Committee of Visitors, Town Hall, Hull.

LIVERPOOL DISPENSARIES, 34, Moorfields, Liverpool.—Four Assistant Surgeons, unmarried. Salary £100 per annum, with board and apartments.

LIVERPOOL STANLEY HOSPITAL.—Senior House Surgeon. Salary £80, with board, lodging, and washing.

LONDON HOSPITAL, Whitechapel, E.—Assistant Surgeon.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £70 per annum, with board and residence in the Infirmary.

METROPOLITAN ASYLUMS BOARD.—Fourth Assistant Medical Officer at the Asylum at Darenth, near Dartford, Kent, unmarried. Salary £150 per annum, rising conditionally to £170, with board, lodging, attendance, and washing subject to statutory deduction. Apply to the Office of the Board, Victoria Embankment, London, E.C.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Soho-square, London.—Physician to Out-patients.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, N.E.—House Physician for six months. Salary at the rate of £80 per annum, with board, residence, and laundry. Also Resident Medical Officer for twelve months. Salary £120, with board, residence, and washing. Applications to the Secretary, City Office, 27, Clement's-lane, Lombard-street, E.C.

NORTH RIDING ASYLUM, Clifton, York.—Junior Assistant Medical Officer. Salary £125, with board, lodging, and washing.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £140 per annum, all found except board.

OLDHAM INFIRMARY.—A Senior and a Junior House Surgeon for one year. Salary £100 and £75 per annum respectively, with board, residence, and washing.

PARISH OF BIRMINGHAM WORKHOUSE INFIRMARY.—Assistant Resident Medical Officer at the Workhouse Infirmary, for one year. Salary £100, with furnished apartments, rations (no alcoholic liquors), coals, gas, laundry, and attendance. Apply to the Clerk to the Guardians, Parish Offices, Edmund-street, Birmingham.

PECKHAM HOUSE ASYLUM, S.E.—Locum Tenens for two months.

PLYMOUTH BOROUGH ASYLUM.—Assistant Medical Officer, unmarried. Salary £125 per annum, with furnished apartments in the Asylum, board, and washing. Applications to the Clerk to the Visiting Committee, Municipal Buildings, Plymouth.

PONTEFRACT GENERAL DISPENSARY AND INFIRMARY.—Resident Medical Officer, unmarried. Salary £150 per annum, with furnished rooms, fire, lights, and attendance.

ROYAL HALIFAX INFIRMARY.—Senior House Surgeon, unmarried. Salary £90 per annum, with residence, board, and washing. Also Third House Surgeon, unmarried. Salary £50 per annum, with residence, board, and washing.

ROYAL ORTHOPÆDIC HOSPITAL, 297, Oxford-street, London.—House Surgeon and Registrar for six months, unmarried. Salary at the rate of £100 per annum, with residence and partial board.

RUBERY-HILL ASYLUM FOR THE CITY OF BIRMINGHAM, Barnt-green, Worcestershire.—Senior Assistant Medical Officer.

ST. MARY'S CHILDREN'S HOSPITAL, Plaistow, E.—Assistant Resident Medical Officer for six months. Salary at the rate of £80 per annum, with board, residence, laundry, &c.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, Paddington, London.—Demonstrator of Physiology. Salary £150.

ST. MUNGO'S COLLEGE, GLASGOW, FACULTY OF MEDICINE.—Bellahouston Chair of Anatomy. Emoluments £300 per annum.

SALOP INFIRMARY, Shrewsbury.—Assistant House Surgeon for six months. Salary at the rate of £60 per annum, with board and washing.

SCARBOROUGH HOSPITAL AND DISPENSARY.—House Surgeon for twelve months. Salary £90, with residence, board, and washing. Also Assistant House Surgeon for six months. Salary at the rate of £75, with residence, board, and washing.

STAMFORD-HILL AND STOKE NEWINGTON DISPENSARY, 189, High-street, Stoke Newington.—Assistant Resident Medical Officer. Salary £100 per annum, with board.

SWANSEA GENERAL AND EYE HOSPITAL.—House Physician for twelve months. Salary £50 per annum, with board, apartments, washing, and attendance.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon. Salary £70 a year, with board, lodging, and washing. In lieu of stimulants or mineral waters £6 per annum will be given.

THE CHIEF INSPECTOR OF FACTORIES gives notice of a vacancy of Certifying Surgeon under the Factory Acts at Saddleworth in the West Riding of the County of York.

UNIVERSITY COLLEGE, Cardiff.—Demonstrator and Assistant Lecturer in Anatomy, and Demonstrator and Assistant Lecturer in Physiology. Salary in each case, £120.

WEST HAM HOSPITAL, Stratford, E.—Junior House Surgeon for one year. Salary £75 per annum, with board, residence, &c.

WEST NORFOLK AND LYNN HOSPITAL, King's Lynn.—House Surgeon. Salary £80, rising £10 annually to £100, with board, residence, and washing.

WILTS COUNTY ASYLUM, Devizes.—Assistant Medical Officer, unmarried. Salary £130, rising £10 a year (if approved) to £160, with board (no beer or wine), residence, attendance, and washing.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House Surgeon, for six months. Honorarium at the rate of £75 per annum, with board, lodging, and washing.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £110 a year, with board, lodging, and attendance

Births, Marriages, and Deaths.

BIRTHS.

BUCKLEY.—On June 27th, at Gillott-road, Edgbaston, Birmingham, the wife of J. R. Buckley, M.B. Lond., M.R.C.S., of a son.

CUTTING.—On June 28th, at Chetwynd House, Stalham, Norfolk, the wife of Ernest Buxton Cutting, M.R.C.S., L.R.C.P., of a son.

DEAN.—On June 24th, at Queen-street, Lancaster, the wife of Charles William Dean, F.R.C.S.E., of a daughter.

DOUGLAS.—On June 28th, the wife of A. R. Douglas, L.R.C.P., L.R.C.S., Resident Medical Officer Royal Albert Asylum, Lancaster, of a son.

GLOVER.—On June 27th, at 17, Belsize-park, Hampstead, the wife of Lewis G. Glover, M.D., of a daughter.

HARDING.—On June 22nd, at Whittlesea, Cambs, the wife of C. H. Harding, M.R.C.S., L.R.C.P. Lond., of a son.

HUTCHINSON.—On July 1st, at Loneside, Haslemere, Surrey, the wife of R. J. Hutchinson, M.R.C.S., L.R.C.P., of a daughter.

JACKSON.—On July 1st, at Grove Lodge, Winchmore-hill, Middlesex, the wife of John W. Jackson, L.R.C.P., M.R.C.S., of a daughter.

MORETON.—On June 28th, at Dunsley, Cotham-park, Bristol, the wife of T. W. B. Moreton, B.A. Cantab., M.R.C.S., L.R.C.P., of Tarvin, Chester, of a son.

NEWBOLT.—July 2nd, at 42, Catharine-street, Liverpool, the wife of George Palmerston Newbolt, M.B., F.R.C.S., of a daughter.

MARRIAGES.

ARNOTT—HEWLETT.—On June 27th, at St. George's (Parish) Church, Beckenham, by the Rev. Henry Arnott, F.R.C.S. Eng., rector (father of the bridegroom), assisted by the Rev. Chas. Green, vicar of St. Paul's, New Beckenham, Neil, eldest son of the Rev. H. Arnott, to Evelyn Mary, eldest daughter of John C. Hewlett, Esq., F.C.S., of Hillside House, Beckenham, Kent, and 40, 41, and 42, Charlotte-street, London, E.C.

ROUNTREE—VAILE.—On June 30th, at St. Peter's, Belsize-park, William Augustine Rountree, M.B., B.Ch., of Haverstock-hill, to Mary Collett (Collie), eldest daughter of T. H. Vaile, of Belsize Park-gardens, Hampstead.

TUKE—FRASER.—At the Roxburghe Hotel, Edinburgh, on 27th June, by the Very Rev. Archibald Scott, D.D., St. George's, and the Rev. Robert Stevenson, M.A., Dunfermline Abbey, Alan L. S. Tuke, M.B., C.M., youngest son of Sir John Batty Tuke, M.P., to Dorothy, only surviving child of the late William Fraser, Inverkeithing, Fife.

DEATHS.

GOULD.—At Whiteknight's Park, Reading, on July 1st, after a very short illness, Catherine Alfreda, the eldest and dearly loved daughter of Alfred Pearce Gould, of 10, Queen Anne-street, London, aged 20.

EWBANK.—On July 2nd, at 5, Berkeley-place, Cheltenham, Henry Ewbank, M.R.C.S., aged 44 years.

LEECH.—On July 2nd, at his residence, Elm House, Whalley Range, in his 61st year, Daniel John Leech, M.D., D.Sc., F.R.C.P., Professor of Materia Medica and Therapeutics in the Owens College, Manchester.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE HONOUR AND DIGNITY OF THE MEDICAL PROFESSION.

A CORRESPONDENT writes:—"Notwithstanding the increasing age of the candidates for the medical profession, the increased cost of their education, and the length of time required to obtain a legal qualification, are we really at bottom—socially, professionally, and otherwise—superior to our predecessors in the healing art? There has been far too much nonsense preached at the annual introductory lectures at our medical schools—that we should 'look for our reward hereafter'; that we should 'retrace our steps at the very threshold if we are seeking pecuniary reward,' &c., &c., *ad nauseam*. But after all is said and done, what is a man in any profession or calling, including medicine and even the Church, valued at if he is poor? Is the money, honourably earned, no test whatever of success? Has not many a brilliant man gone down into a pauper's grave? Does anyone shed a tear of regret for the poor, dead or living? Possibly a few may do so, but their tears can be counted and they do not often scald.

"The recent revelations respecting the lunacy scandals in the parish of St. Pancras may come as a surprise, and possibly as a grief, to some. But the foul ulcer is not a new one; it is chronic—shall I say 'spreading'?—for the same scandal has existed for over 30 years in more than one parish in this metropolis to my own certain knowledge, and how many years previously I will not venture to suggest. The entire subject is a most unsavoury one, but it is best not to attempt to hide it or hush it up lest worse befall us and we as a profession have to pass through the same painful portals that another profession—that of the law—is passing through at the present time. It is time carefully to inquire into the management of our own happy home and also into the conduct of some of our own more unworthy brethren ere the bud becomes the decayed and drooping flower. Surely, there should be some kind of court of preliminary inquiry into the conduct and bearing of certain members of our profession before the serious question arises of removing a name from the Medical Register.

"It is not always the poor man who is to blame, but frequently it is the one who ought to be able to keep up the honour and dignity of the profession and who does know better who is the greater offender. True nobility is not a monopoly of the rich. The sharing of fees with relieving officers, the keepers of licensed establishment for the reception of lunatics, drunkards, &c., coroners' officers, policemen, and nurses is not a very dignified or desirable position for a medical man. Even coroners' officers are painted with the same brush; and some time ago one of these men had the audacity to offer me only a part of my legal fee, and at the same time made the excuse that Dr. So-and-So always allowed a discount of 25 per cent. Was this bribe given in order to secure the officer sending cases to this particular doctor? If so the donor was singularly unfortunate as he was only opening the door to bribery, corruption, and public scandal. I once knew of a nurse who retained 5*s.* from a fee of 5 guineas handed to her to be given to a doctor for attending a lady in her confinement. The doctor, who was one of the old school, said nothing to the nurse, but returned at once to the patient and inquired whether she had not made a mistake of 5*s.* in his fee. Again, to come to more recent times, since the General Medical Council have made some weak pronouncement respecting medical men attending certain medical aid societies I know of cases of medical men living in large houses and driving their own carriages who have resigned a few of their more doubtful appointments as medical officers to medical aid societies and the like, fearing the possibility of their conduct reaching the ears of the General Medical Council. This fear is most wholesome, for most offenders of this class are arrant cowards, but at the same time some of these nervous ones have conveyed to the rejected clubites that 'quite privately, you know, I shall be pleased to see you at my surgery for one shilling.' I should like to know why little children such as 'Juvenile Foresters,' 'Juvenile Oddfellows,' and the like should be attended for half the usual fees, such as 6*d.* a quarter and even less? Is the life of a little child only of half the value of that of the parent? Is the time or skill, or even the medicine, of less value than that which is doled out to the parents. I have known the case of two little children living under the same roof and belonging to the same parents one of whom was a Juvenile Forester and the other a Juvenile Oddfellow, and these two little mites have been receiving the distinguished attention of two doubly qualified physicians and surgeons of our Royal Colleges, who have been only too delighted to drive up to their humble cottage with horse and carriage, coachman, cockade, and fur cape and cuffs included, and all for one halfpenny a week. There was a time when we never received less than 1*d.* Need anyone be surprised how these little children will respect us in the years to come.

"Take the case of life-insurance offices. There was a time when no medical man of repute would take a fee of less than one guinea for

examining the life of an insurer, but now that industrial offices accept lives for small sums of insurance these offices plead that they cannot pay such large fees, and in this way our position is assailed and our fees are cut down and undermined. Is the time required of less value when examining the poor? Is there less need of care on our part? Is the fee so small that there is no longer any need for us jealously to defend our written diagnosis, no longer any necessity to defend the honour and dignity of the profession? We really have only ourselves to thank for this gradual, but certain undermining, of our nobility. If the lives of the poor are to be insured, by all means let them be so, but not at the expense of the medical profession. Let these offices take such small sums and lives at their own risk, or else pay some of the enormous funds which are at their disposal to some of our poorer brethren who are trying so hard to keep the wolf from the door, but who frequently find themselves quite unable to do so in consequence of the mean trade-like competition within our ranks."

A GOOD BICYCLE SADDLE.

To the Editors of THE LANCET.

SIRS,—Can you or any of your correspondents tell me the name of a good anatomical saddle for a bicycle where a proper support is given to the buttocks of a rider in the upright (non-stooping) position and where at the same time the thighs are not apt to get chafed?

I am, Sirs, yours faithfully,

June 25th, 1900. B.

SOME OF THE FACTORS LEADING TO A RELATIVELY HIGH PERCENTAGE OF MALE OFFSPRING.

To the Editors of THE LANCET.

SIRS,—After studying more than 300 marriages with the object of discovering some of the conditions likely to give rise to a relatively high percentage of boys I have come to some conclusions which I now give for what they are worth. Possibly some of your readers may have time and opportunity to work out a still larger number of cases and to compare their results with mine. It seems to me that this should not be regarded as a mere matter for curiosity, but as having real practical bearings. I think that if my rules are followed we shall hear less often the complaint of paterfamilias that he has "seven daughters who prophesy" and, alas, not one boy! The conditions thrown into rules are:—1. Do not marry the eldest daughter of a family but rather the youngest. There is a progressive increase of boy-producing power from the eldest up to the youngest daughter. 2. Do not marry one whose age differs much from your own; and do not marry much under or over 30. 3. Do not marry a widow. 4. Do not refuse to marry a cousin or an only daughter. No doubt there are other factors to be taken into account, but here I think we have some rather important ones. I am, Sirs, yours faithfully,

Sutton, June 29th, 1900. GERALD S. WALTON, M.B., C.M. Edin.

AN APPEAL TO BROTHER PRACTITIONERS.

To the Editors of THE LANCET.

SIRS,—Can any of your readers suggest a line of treatment likely to be of use to me? For the last few months I have at times suffered from rheumatism in my right hip-joint, aggravated by long walks or damp weather. I am 59 years old, very temperate, always had good health, weight 14 stone, urine normal. Being fond of shooting I do not want to become an arthritic cripple. Would cider be harmful? I have given it in cases of atonic gout with great benefit.

I am, Sirs, your faithfully,

July 2nd 1900 M.D.

THE TREATMENT OF MORPHINOMANIA.

To the Editors of THE LANCET.

SIRS,—A lay paper recently published a statement that Dr. O. Emmerich of Baden-Baden had discovered a drug useful in morphinomania. Can you or your readers give me any information or refer me to papers written by him?

I am, Sirs, yours faithfully,

ROGER N. GOODMAN, M.D. Cantab.

Kingston-on-Thames, July 1st, 1900.

SHAM DIPLOMAS IN THE UNITED STATES.

WE are accustomed from time to time to see accounts of inquests held upon the bodies of those who have died while under the care of quacks who pose as "qualified" and put after their names such letters as F.C.S.M. or M.B., the latter letters signifying not Medicinæ Baccalaureus but Medical Botanist. This, of course, is the explanation given by the quack. Only, naturally enough, his dupes think the letters refer to the genuine degree and naturally, also, that is what the quack counts upon. In the United States, however, the sham diploma factory flourishes to a greater extent than here, and we rejoice to see that a raid has at length been made upon such an institution which had its local habitation in Chicago. Its late title is the Metropolitan Medical College, and its history, according to the *Chicago Daily Tribune*, is as follows:—The institution was organised in 1895 under the name of the Illinois Health University. The charter for this name was revoked by the board two years later. Immediately the college was re-organised by the same owners under the name of the Independent Medical College. A revocation of this charter in December last resulted in the college being started anew under the name of the Metropolitan Medical College. Finding that the promoters of the institution had seven charters remaining under which the institution could be conducted, Attorney John A. Barnes, counsel for the board, interested the Post-office authorities in the prosecution. The charge upon which the proprietors have been arrested is that of using the mails to defraud. They sold worthless diplomas through the post for sums varying from 25 dollars to 100 dollars, and some of the victims gave evidence in the police-court. We are afraid that a charge of "using the mails to defraud" would not stand on this side of the Atlantic, but if only it could be made to do so there might be some chance of many thieves being brought to book. To say nothing of the innumerable prospectuses of bubble companies there are the circulars of the "Free portrait" swindlers, of quacks such as "Dr." Bell, and the specious promises of the money-lending fraternity. The number of fools is incalculable, but the swindler with brains should not be assisted by the Government in his nefarious trade.

"THE CASE OF THE LATE MR. ALFRED BOURNE."

To the Editors of THE LANCET.

SIRS,—The following is the third list of subscriptions.

I am, Sirs, yours faithfully,

Northallerton, June 26th, 1900. J. A. HUTCHINSON.

	£	s.	d.
Rev. R. J. Steele (Harlsey)	1	0	0
Mrs. Jefferson (Northallerton)	0	10	0
Miss J. Yeoman (Northallerton)	1	0	0
Mr. C. A. Bell (Osmotherley)	0	10	0
Dr. J. H. Buchanan (Thirsk)	1	0	0
Dr. S. Yeoman (Prestwich)	2	2	0
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THE OPEN-AIR TREATMENT OF PHTHISIS.

To the Editors of THE LANCET.

SIRS,—Can any of your readers tell me where a servant girl can be treated for early phthisis by the open-air method? Her mistress will pay a reasonable figure weekly for her.

I am, Sirs, yours faithfully,

July 3rd, 1900. J. B.

"*" A list of institutions was given in THE LANCET of Sept. 9th (p. 724) and 23rd (p. 851), 1899.—ED. L.

"PULEX IRRITANS."

To the Editors of THE LANCET.

SIRS,—If "C. M. H." will freely spread dry chloride of lime on the floors and then order the floors to be washed with the scrubbing-brush in the ordinary way, he will not only whiten the floors, but will also completely rout the enemy, which will not, like De Wet, renew the attack. I am, Sirs, yours faithfully,

Holland Park Avenue, W., July 4th, 1900. ALFRED E. BARRETT.

Pathology.—Full information with regard to post-graduate study in foreign universities will be found in the Students' Number of THE LANCET for 1899. Foreign degrees are as a rule granted to medical men holding English qualifications only after they have gone through the full foreign curriculum. Some of the foreign universities admit the use of interpreters, but, practically speaking, a knowledge of the language is—and we think should be—essential. Some of the university towns are much more economical to live in than others, but the allowance is a larger one than the foreign student enjoys as a rule. If our correspondent can live as a native he will be well off, but to do this he must have a working knowledge of the language.

Expectant.—There is no rule. The purchaser, we think, generally pays, but the matter is one for mutual arrangement between the parties.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received: *Stalybridge Herald, Sporting and Dramatic News (London), Bullionist, South Wales Daily News, Birmingham Daily Post, Liverpool Daily Post, Jersey Express, East Anglian Daily Times, Newcastle Daily Chronicle, Manchester Guardian, Glasgow Herald, Cornishman, Leeds Mercury, Nottingham Daily Guardian, Birkenhead News, Cheltenham Mercury, Times of India, Pioneer Mail, Architect, Builder, Citizen, Scotsman, Bristol Mercury, Yorkshire Post, Brighton Gazette, Sanitary Record, Medical Review, Madras Standard, Modern Society, Chester Courant, Newbury Weekly News, City Press, Lincolnshire Chronicle, Reading Mercury, Oban*

Times, Jewish Chronicle, Hertfordshire Mercury, Local Government Journal, Surrey Advertiser, Surrey Gazette, Hereford Mercury, Weekly Free Press and Aberdeen Herald, Wiltshire Times, Worcester Herald, Suffolk Chronicle, Peterborough Express, Keighley Herald, Dover Standard, Gloucester Journal, Manchester Courier, Admiralty and Horse Guards Gazette, People (London), Bolton Journal, New Age (London), Kent County Examiner, &c., &c.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 5th, 1900.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. in Shade.	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
June 29	29·95	S.W.	...	121	77	57	59	62	Hazy
,, 30	29·73	S.W.	0·26	111	68	55	56	57	Cloudy
July 1	29·62	W.	...	117	69	57	58	56	Cloudy
,, 2	29·64	S.W.	0·10	93	66	56	57	59	Raining
,, 3	29·74	N.W.	0·28	121	73	57	57	61	Fine
,, 4	30·10	N.E.	0·27	110	71	54	55	59	Cloudy
,, 5	30·04	S.W.	...	78	68	57	57	60	Overcast

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (11th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (12th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (14th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

FRIDAY (13th).—BRITISH GYNÆCOLOGICAL SOCIETY (Buxton).—Specimens will be shown by Mr. Furneaux Jordan, Mr. C. Martin, Mr. Macnaughton Jones, and Mr. C. Ryall. Discussion on Some Untoward Results following Abdominal and Pelvic Operations and the Means requisite to Prevent them (opened by Mr. S. Bishop).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (9th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. T. C. Fox: Consultation. (Skin.)

LONDON THROAT HOSPITAL (204, Gt. Portland-street, W.).—4.30 P.M. Dr. F. Poynter: Post-nasal Growths. (Post-graduate Course.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. S. Taylor: The Diagnosis of Chest Cases.

TUESDAY (10th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. W. B. Cheadle: Consultation. (Medical.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, W.C.).—3.30 P.M. Dr. A. Turner: Tabes Dorsalis.

WEDNESDAY (11th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. G. Rankin: Consultation. (Medical.)

EVELINA HOSPITAL (Southwark-bridge-road, S.E.).—4.30 P.M. Mr. C. H. Fagge: Clinical Demonstration of Selected Surgical Cases. (Post-graduate Course.)

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Habershon: Auscultatory Percussion as a means of Diagnosis in Thoracic Disease.

THURSDAY (12th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson: Consultation. (Surgical.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. S. Taylor: The Diagnosis of Spinal Cord Cases.

CHARING-CROSS HOSPITAL.—4 P.M. Dr. Willcocks: Medical Cases. (Post-graduate Course.)

FRIDAY (13th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. Tilley: Consultation. (Nose and Throat.)

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1900, which was completed with the issue of June 30th, and the Title-page to the Volume, are given in this number of THE LANCET.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1900 will be ready shortly. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

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To be obtained on application to the Manager, accompanied by remittance.

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